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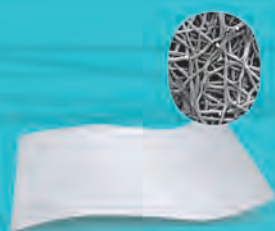


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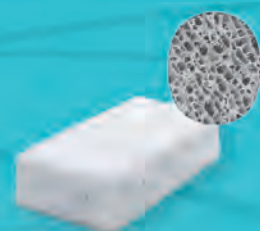
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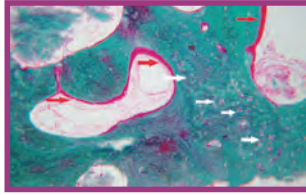
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Οστική ανάπλαση στην οδοντιατρική εμφυτευματολογία

Το παγκόσμιο best seller του **Fouad Khoury** τώρα και στα ελληνικά



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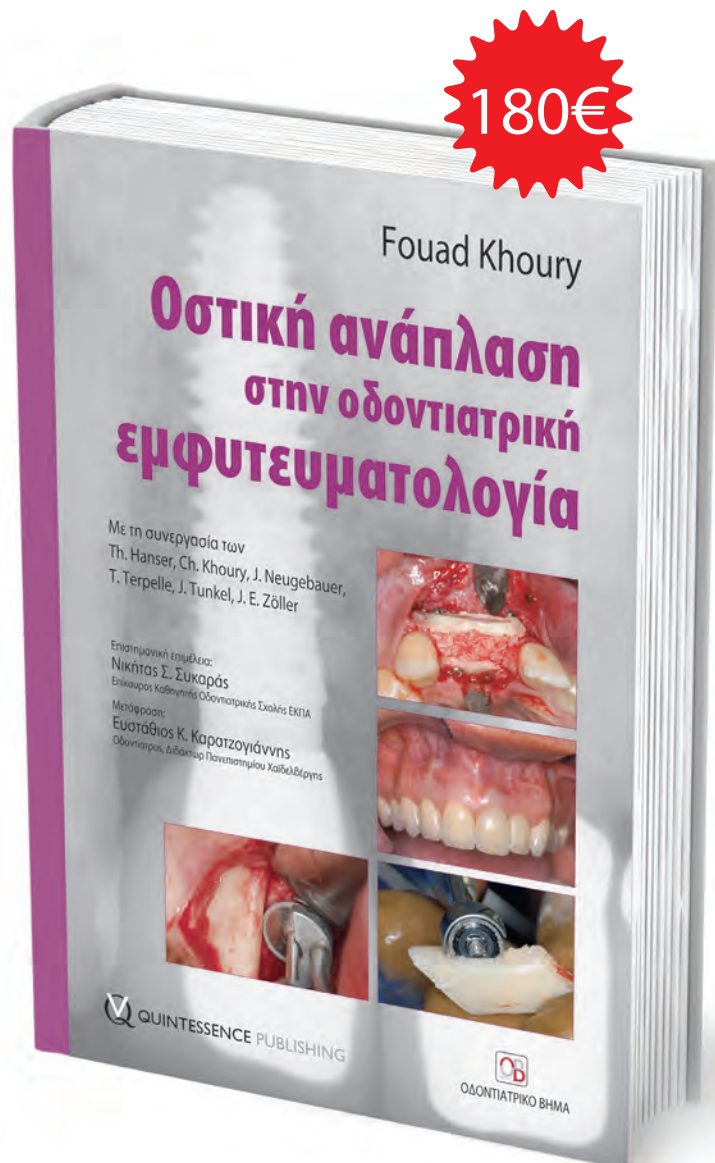


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Editorial



HAOMS 2022 - Κατευθυνόμενη Οστική Ανάπλαση στην Εμφυτευματολογία

Το πρώτο Editorial του 2022, στο τεύχος που κρατάτε στα χέρια σας γράφεται την παραμονή του πανελλήνιου συνεδρίου της Ελληνικής Εταιρείας Στοματικής Γναθοπροσωπικής Χειρουργικής (ΕΕΣΓΠΧ), HAOMS 2022 «Κατευθυνόμενη Οστική Ανάπλαση στην Εμφυτευματολογία». Στόχος μας είναι για πρώτη φορά, το περιοδικό να διανεμηθεί στους συνέδρους του Πανελληνίου Συνεδρίου της ΕΕΣΓΠΧ. Η διανομή αυτή θα είναι ουσιαστική καθώς για πρώτη φορά, οι περιλήψεις των υποβληθέντων επιστημονικών εργασιών (προς βράβευση, ελευθέρων και αναρτημένων), δημοσιεύονται στο τεύχος που κρατάτε, λαμβάνοντας μάλιστα και αυτές, η κάθε μια, ψηφιακό αναγνωριστικό αντικειμένου (DOI).

Το digital object identifier (DOI) (ψηφιακό αναγνωριστικό αντικειμένου) είναι ένα μόνιμο ψηφιακό αναγνωριστικό που δίνεται σε ένα ηλεκτρονικό έγγραφο. Τα αναγνωριστικά ψηφιακών αντικειμένων (DOI) είναι χρήσιμα προκειμένου να είναι εύκολη και γρήγορη η εύρεση άρθρων που δημοσιεύονται ηλεκτρονικά. Τα DOI μπορούν επίσης να χρησιμοποιηθούν σε συνδυασμό με έντυπα υλικά. Συνεπώς το ίδιο το αντικείμενο περιεχομένου (ενδεικτικά άρθρο, περίληψη, αυτό το Editorial) χρειάζεται αναγκαστικά να είναι ψηφιακό. Τα DOI βρίσκονται συχνά σε ακαδημαϊκά περιοδικά και στην πραγματικότητα η πλειοψηφία των καταχωρισμένων DOI γίνεται για εκπαιδευτικά άρθρα. Το κύριο πλεονέκτημα ενός DOI είναι ότι είναι μόνιμο. Αν αλλάξει η θέση ενός εγγράφου στο διαδίκτυο (π.χ. αλλαγή παρόχου φιλοξενίας ιστοσελίδων), τα δεδομένα μετά πρέπει να ενημερωθούν, αλλά το DOI δεν χρειάζεται να ενημερωθεί. Το σύστημα DOI δεν είναι ανοικτό και ελέγχεται από το Διεθνές Ίδρυμα DOI. Το Διεθνές Ίδρυμα DOI (IDF) ορίζει το όνομα DOI ως «ένα ψηφιακό αναγνωριστικό για κάθε αντικείμενο πνευματικής ιδιοκτησίας». Μια τυπική χρήση του DOI είναι να δοθεί σε ένα επιστημονικό έγγραφο ή άρθρο ένας μοναδικός αναγνωριστικός αριθμός που ο καθένας μπορεί να χρησιμοποιήσει για να συλλέξει πληροφορίες σχετικά με τη θέση της δημοσίευσης σε ένα ψηφιακό δίκτυο. Το DOI είναι ανιχνεύσιμο από τις πλατφόρμες αναζήτησης (CrossRef, Scopus) και ανιχνεύεται και συνδέεται αυτόματα με το συγγραφέα από εφαρμογές καταλογοποίησης ερευνητών όπως το ResearchGate και το Semantic Scholar.

HAOMS 2022 – Guided Bone Regeneration in Implantology

The first Editorial of 2022, in the issue you are holding, was written on the eve of the pan-Hellenic conference of the Hellenic Association of Oral and Maxillofacial Surgeons (HAOMS), HAOMS 2022 “Directed Bone Regeneration in Implantology”. Our goal is for the first time, for this journal to be distributed to the participants of the Panhellenic Conference of EESGPX. This distribution will be substantial as for the first time, the abstracts of the submitted scientific papers (for award, free and poster presentation), are published in the issue you are holding, each one even receiving a digital object ID (DOI).

The digital object identifier (DOI) (digital object identifier) is a permanent digital identifier given to an electronic document. Digital Object IDs (DOIs) are useful to make it easy and fast to find articles published online. DOIs can also be used in conjunction with printed materials. Therefore the content object itself (indicative article, summary, this Editorial) necessarily needs to be digital. DOIs are often found in academic journals and in fact the majority of registered DOIs are for educational articles. The main advantage of a DOI is that it is permanent. If a document changes its location on the web (eg change of the web hosting provider), the data then needs to be updated, but the DOI does not need to be updated. The DOI system is not open and is controlled by the International DOI Foundation. The International DOI Foundation (IDF) defines the DOI name as “a digital identifier for any intellectual property”. A typical use of the DOI is to give a scientific document or article a unique identifier that anyone can use to collect information. The DOI is detectable by search platforms (CrossRef, Scopus) and is automatically detected and linked to the author by researcher cataloging applications such as ResearchGate and Semantic Scholar.

From now on, all articles published in the “Archives” will receive a DOI. This facilitates the cataloging of the journal and increases its readability. For authors, this means automatic cataloging and easy collection of their work, while keeping it in perpetuity. These advantages of the authors of the “Archives” will be also enjoyed by the colleagues who will announce scientific papers at the conferences of the ECHR, as their abstracts will be

Εφεξής όλα τα άρθρα που δημοσιεύονται στα «Αρχεία» θα λαμβάνουν DOI. Έτσι διευκολύνεται η καταλογοποίηση του περιοδικού και αυξάνεται η αναγνωσιμότητα του. Για τους συγγραφείς, αυτό σημαίνει αυτόματη καταλογοποίηση και εύκολη συγκέντρωση της δουλειάς τους, με ταυτόχρονη διατήρηση της στο διηνεκές. Τα πλεονεκτήματα αυτά, των συγγραφέων των «Αρχείων» θα απολαμβάνουν και οι συνάδελφοι που θα ανακοινώνουν επιστημονικές εργασίες στα συνέδρια της ΕΕΣΓΠΧ, καθώς οι περιλήψεις αυτών θα δημοσιεύονται στα «Αρχεία» και έτσι το έργο τους θα είναι πάντοτε ικνηλάσιμο και διαθέσιμο για αναφορά στις μηχανές αναζήτησης ιατρικής βιβλιογραφίας.

Στο τεύχος που κρατάτε στα χέρια σας, εκτός από τις περιλήψεις των επιστημονικών εργασιών του HAOMS 2022 που αναφέρθηκαν, δημοσιεύονται πέντε επιστημονικές εργασίες. Οι δύο αφορούν σε βιβλιογραφικές ανασκοπήσεις ενώ οι υπόλοιπες 3 σε αναφορές περιστατικών.

Το πρώτο άρθρο (1) που έχει συγγραφεί από το δάσκαλο μας, καθηγητή Νικόλαο Λαζαρίδη, αφορά στην ιστορία του λεμφαδενικού τραχηλικού καθαρισμού, που πρώτος περιέγραψε ο Crile. Η γνώση της ιστορίας και της εξέλιξης αυτής της *sine qua non* επέμβασης για την ειδικότητα της ΣΓΠΧ είναι απαραίτητη για τους νέους συναδέλφους, ενώ και οι εμπειρότεροι, είναι σίγουρο ότι θα βρουν ενδιαφέροντα στοιχεία για την εξέλιξη των τεχνικών τις οποίες χρησιμοποιούν στην καθημερινή πράξη τους. Το δεύτερο άρθρο αφορά σε βιβλιογραφική ανασκόπηση των παιδιατρικών όγκων της περιοχής κεφαλής και τραχήλου (2). Πρόκειται για μια εκτενή ανασκόπηση που περιλαμβάνει μεγάλος μέρος της σχετικής βιβλιογραφίας, με σημαντική εκπαιδευτική αξία. Το τρίτο άρθρο αφορά σε ενδιαφέρουσα περίπτωση ενδομυελικού οστεοειδούς οστεόματος της κάτω γνάθου (3). Το 4ο άρθρο αφορά σε σπάνια εμφάνιση λιπώματος στη στοματική κοιλότητα και συζητά τη δυσκολία στη διαφορική του διάγνωση από ίνωμα (4). Η 5η δημοσιευμένη εργασία του τεύχους είναι επίσης αναφορά περιστατικού που περιγράφει περίπτωση εξόσωσης της άνω γνάθου και την αντιμετώπιση της (5).

Μια ακόμη καινοτομία που HAOMS 2022 είναι ότι οι εργασίες που θα βραβευθούν θα δημοσιευτούν στο περιοδικό, με την δημοσίευση στα «Αρχεία» να είναι προϋπόθεση για τη βράβευση τους. Η συντακτική επιτροπή θεωρεί ότι με τον τρόπο αυτό δίνεται κίνητρο και βήμα σε νέους συναδέλφους

published in the “Archives” and so their work will always be traceable and available for reference on the medical literature search engines.

In the issue you are holding in your hands, in addition to the summaries of the scientific papers of HAOMS 2022 mentioned, five scientific papers are published. The two refer to bibliographic reviews while the other 3 to case reports.

The first article (1) written by our teacher, Professor Nikolaos Lazaridis, concerns the history of cervical lymph node dissection, first described by Crile. Knowledge of the history and evolution of this *sine qua non* intervention for the specialty of OMFS is essential for new colleagues, while even the most experienced, will surely find interesting facts about the evolution of the techniques they use in their daily practice. The second article concerns a literature review of pediatric tumors of the head and neck region (2). This is an extensive review that includes much of the relevant literature, with significant educational value. The third article deals with an interesting case of intramedullary osteoid osteoma of the mandible (3). Article 4 deals with the rare occurrence of lipoma in the oral cavity and discusses the difficulty in its differential diagnosis by fibroma (4). The 5th published work of the issue is also a case report that describes a case of maxillofacial exostosis and its treatment (5).

Another innovation that HAOMS 2022 has is that those abstracts that will be awarded will be published in the journal, with the publication in the “Archives” being a condition for their award. The editorial board considers that in this way, both motivation and podium are given to new colleagues

ενώ ταυτόχρονα αναβαθμίζεται η ύλη του περιοδικού. Κλείνω ευχαριστώντας τους συναδέλφους που επέλεξαν να παρουσιάσουν το επιστημονικό τους έργο στο συνέδριο μας, HAOMS 2022 και υπόσχομαι να προσπαθήσουμε για ακόμη περισσότερα κίνητρα και ακόμη μεγαλύτερη απήχηση από το παρόν βήμα.

Δρ. Αθανάσιος Κυργίδης
Διευθυντής Σύνταξης

Στοματικός Γναθοπροσωπικός Χειρουργός
- Επιμελητής ΕΣΥ, Κλινική Στοματικής
Γναθοπροσωπικής Χειρουργικής Α.Π.Θ. /
Ειδικό Κέντρο Θεραπείας και
Αποκατάστασης του καρκίνου της
Στοματικής Γναθοπροσωπικής
Χειρουργικής, Γ.Ν. Θεσσαλονίκης
«Γ. Παπανικολάου», Θεσσαλονίκη

while at the same time the content of the journal is upgraded. I close by thanking the colleagues who chose to present their scientific work at our conference, HAOMS 2022, and I promise to strive for even more motivation and even greater impact from this podium.

Athanassios Kyrgidis
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Η ιστορία της κατά Crile τραχηλικής λεμφαδενεκτομής

Νικόλαος Λαζαρίδης¹

The history of Crile's neck dissection

Nikolaos Lazaridis¹

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ΠΕΡΙΛΗΨΗ: Οι τέσσερις «γίγαντες» της χειρουργικής του τέλους του 19ου αιώνα, ο von Langenbeck, ο Kocher, ο Packard και ο Butlin ανέπτυξαν και δημοσίευσαν τις πρώτες τους περιπτώσεις τραχηλικής λεμφαδενεκτομής με διαφορετικό τύπο λεμφαδενεκτομής (neck dissection) ο καθένας. Ο Butlin στην Αγγλία συνέλαβε και ανέπτυξε πρώτος την ιδέα της εκλεκτικής τραχηλικής λεμφαδενεκτομής (selective neck dissection). Το 1888 ο Πολωνός χειρουργός Jawdyski ανακοίνωσε και περιέγραψε με λεπτομέρεια την πρώτη επιτυχημένη εκτεταμένη μονοπαγή τραχηλική λεμφαδενεκτομή (extended en bloc neck dissection). Το 1905 και 1906 ο Αμερικανός Crile, μετά από την μακρά εμπειρία του από την αντιμετώπιση καρκίνου κεφαλής και τραχήλου, καθώς και από τη μελέτη μεγάλου αριθμού ασθενών που χειρούργησε, διαπίστωσε ότι σε αυτούς τους όγκους κεφαλής και τραχήλου σχεδόν πάντοτε οι μεταστάσεις ακολουθούσαν την λεμφική οδό μέσω των λεμφαγγείων στους τραχηλικούς λεμφαδένες, ενώ απομακρυσμένες μεταστάσεις εμφανίζονταν εξαιρετικά σπάνια. Για το λόγο αυτό ο Crile θεώρησε ότι με επαρκή εκτομή της πρωτοπαθούς εστίας και της τραχηλικής λεμφικής διασποράς, τέτοιοι όγκοι ήταν δυνητικά ιάσιμοι. Επίσης, ο Crile διαπίστωσε και υποστήριξε ότι η εκτομή όλων των τραχηλικών λεμφαδένων και των ιστών που σχετίζονται με αυτούς, σε συνδυασμό με εκτομή της πρωτοπαθούς εστίας, ήταν ο πλέον αποτελεσματικός τρόπος θεραπείας, ιδιαίτερα σε ασθενείς με κλινική ένδειξη παρουσίας διηθημένων λεμφαδένων. Η διενέργεια τέτοιου είδους επεμβάσεων την εποχή εκείνη ήταν γεμάτη από δυσκολίες, εξαιτίας της μη δυνατότητας μετάγγισης αίματος, χορήγησης αντιβιοτικών και ενδοτραχειακής αναισθησίας. Ο Crile επινόησε διάφορες στρατηγικές για να αντιμετωπίσει τις παραπάνω δυσκολίες. Διενήργησε 36 τέτοιες en bloc τραχηλικές λεμφαδενεκτομές (block resections) και πέτυχε 75% 3ετή επιβίωση συγκριτικά με 19% 3ετούς επιβίωσης σε ασθενείς στους οποίους δεν διενεργήθηκε en bloc τραχηλική λεμφαδενεκτομή. Οι χειρουργικές αρχές που ο Crile καθόρισε οδήγησαν στην αναγνώριση της en bloc τραχηλικής λεμφαδενεκτομής από τη διεθνή ιατρική κοινότητα ως μιας αποτελεσματικής επέμβασης που θα μπορούσαν όλοι να εφαρμόσουν και να έχουν καλά αποτελέσματα.

ΛΕΞΕΙΣ ΚΛΕΙΔΙΑ: ριζική τραχηλική λεμφαδενεκτομή, ενδοστοματικό καρκίνωμα, τραχηλική λεμφαδενεκτομή, Crile.

SUMMARY: The four "giants" of late 19th century, von Langenbeck, Kocher, Packard and Butlin developed and reported their early cases of different types of neck dissection. Butlin in England conceived and developed the concept of selective neck dissection. In 1888, Polish surgeon Jawdyski reported and described in detail the first successful extended en bloc neck dissection. In 1905 and 1906, an American surgeon Crile based on his experience in treatment of head and neck cancer and after having treated a large number of cases, reached the conclusion that head and neck tumors almost always drain through lymphatic pathways of the neck and rarely metastasize distantly. These tumors could be consequently successfully treated by resection of the primary tumor and its lymphatic draining shed. Crile found out that an en bloc resection of all lymph node-bearing tissue of the neck in addition to resection of the primary tumor was the most effective mean of obtaining a cure, particularly in patients with clinical evidence of spread of the disease to the neck. Such radical surgery at that time was fraught with difficulty because of lack of blood transfusion, antibiotics and endotracheal anesthesia. Crile developed several strategies for combating these obstacles. He performed 26 such block resections and obtained a 3-year survival of 75%, compared to 19% 3-year survival in patients who had not undergone block resection. The operative principles developed by Crile led to a worldwide acknowledgement of this procedure as an effective operation that any trained surgeon could perform with reproducible results.

KEY WORDS: radical neck dissection, oral carcinoma, neck dissection, Crile.

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INTRODUCTION

Η χειρουργική του τραχήλου μέχρι τον 19ο αιώνα

Οι χειρουργοί του 19ου αιώνα είχαν ήδη αντιληφθεί ότι η «διασπορά» του καρκίνου κεφαλής και τραχήλου στους λεμφαδένες της περιοχής (τους λεμφαδένες την εποχή εκείνη τους ονόμαζαν "glands") προμήνυε μία πολύ κακή πρόγνωση. Κατά τα μέσα και τα τέλη του 19ου αιώνα 4 μεγάλοι χειρουργοί στην Ευρώπη: ο von Langenbeck (1810-1887), ο Billroth (1829-1894), ο Volkmann (1830-1889) και ο Kocher (1841-1917) ανέπτυξαν και δημοσίευσαν διάφορους τύπους τραχηλικής λεμφαδεκτομής (neck dissection) (εικ. 1). Οι επεμβάσεις που διενήργησαν στον τράχηλο οι ανωτέρω χειρουργοί ήταν συνήθως προσπάθειες να αφαιρεθούν ολόκληρα blocks της μεταστατικής νόσου, με ή χωρίς τμήμα από τους πέριξ υγιείς γειτονικούς ιστούς και τις γύρω επώνυμες ανατομικές δομές. Τέτοιες επεμβάσεις κατά κανόνα λάμβαναν χώρα σε ασθενείς τελικού σταδίου (ογκώδεις τραχηλικές μεταστάσεις), όπου στην ουσία δεν ήταν εφικτή η ριζική εκτομή της καρκινικής τραχηλικής νόσου. Παρόλο που περιστασιακά δημοσιεύονταν επιβίωση κάποιων ασθενών έως και τρία χρόνια, η πλειοψηφία από αυτούς κατέληγε νωρίτερα από την νόσο, εάν όχι από την ίδια την επέμβαση (Folz και συν. 2007).

Το 1875 ο von Langenbeck (Langenbeck 1875) δημοσίευσε 2 περιπτώσεις ασθενών με εκτομές νόσου στον τράχηλο που συμπεριελάμβαναν την έσω σφαγίτιδα φλέβα και την καρωτίδα. Και οι 2 ασθενείς κατέληξαν σύντομα μετά την χειρουργική επέμβαση. Το 1880, ο Kocher (Kocher 1880) τόνισε ότι η λεμφαδεκτομή θα πρέπει να διενεργείται ως ευρεία, επί υγιών ιστών, εκτομή, και εισήγαγε μάλιστα δικές του τομές προσπέλασης για την διενέργεια της τραχηλικής λεμφαδεκτομής, από τις οποίες μάλιστα η μία είναι γνωστή διεθνώς με το όνομά του ως «Kocher incision» (εικ. 2). Ο Kocher υποστήριξε ότι σε κάθε τραχηλική λεμφαδεκτομή θα πρέπει να εκτέμνονται όλοι οι λεμφαδένες του υπογναθίου τριγώνου, καθώς και ότι η εκτομή της πρωτοπαθούς εστίας σε καρκίνο της γλώσσας πρέπει να γίνεται με διατραχηλική προσπέλαση (transcervical approach). Το 1882, ο von Volkmann (Volkmann 1882) δημοσίευσε 2 περιπτώσεις ριζικής en bloc λεμφαδεκτομής (radical en bloc dissection). Και οι 2 ασθενείς απεβίωσαν σύντομα μετά την επέμβαση χρόνο. Το 1885, ο Άγγλος Butlin (Butlin 1885) (εικ. 3) συνηγόρησε υπέρ της εκλεκτικής ή προφυλακτικής τραχηλικής λεμφαδεκτομής σε καρκίνο της γλώσσας. Το 1888, ο Jawdynski (Jawdynski 1888) (εικ. 4) ένας Πολωνός χειρουργός διενήργησε επέμβαση, όπου πραγματοποίησε αυτό που σήμερα ονομάζουμε εκτεταμένη ριζική en bloc τραχηλική λεμφαδεκτομή (extended radical en block neck dissection). Η χειρουργική αυτή επέμβαση δημοσιεύτηκε στη *Gazeta Lekarska*, ένα πολωνικό περιοδικό, και η εργασία παρέμεινε άγνωστη στο ευρύτερο ιατρι-

INTRODUCTION

Neck surgery until the 19th century

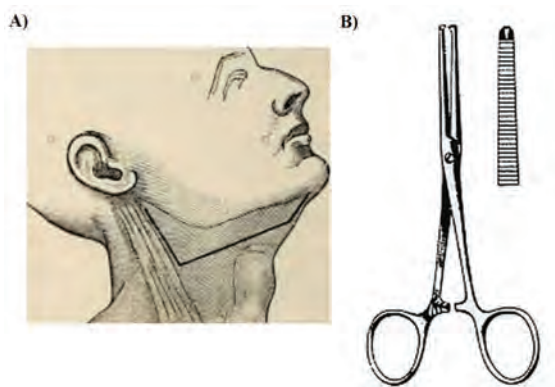
19th century surgeons had already realized that the spread of head and neck cancer in the local lymph nodes (at the time, lymph nodes were called "glands") led to a very poor prognosis. During the middle and the end of the 19th century 4 great surgeons in Europe: von Langenbeck (1810-1887), Billroth (1829-1894), Volkmann (1830-1889) and Kocher (1841-1887) developed and published several types of neck dissection (figure 1). The neck surgeries performed by these surgeons were usually attempts to remove whole blocks of the metastatic disease, with or without a part of the surrounding healthy adjacent tissues and anatomical structures. Such surgeries usually took place in terminal stage patients (bulky neck metastasis), in whom the radical dissection of the cancerous neck disease was, in essence, not feasible. Although they occasionally reported the survival of some patients up to 3 years, the majority of them died earlier from the disease, if not from the surgery (Folz et al. 2007).

In 1875 von Langenbeck (Langenbeck 1875) published 2 cases of patients with neck dissections of the disease including the inner jugular vein and the carotid. Both patients died soon after the surgical procedure. In 1880, Kocher (Kocher 1880) emphasized that the neck dissection should be performed as extended, within clini-



Εικ. 1: Οι 4 μεγάλοι χειρουργοί της Ευρώπης: 1) Langenbeck (1810-1887), 2) Billroth (1829-1894), 3) Volkmann (1830-1889) και 4) Kocher (1841-1917)

Fig. 1: The 4 greatest European surgeons: 1) Langenbeck (1810-1887), 2) Billroth (1829-1894), 3) Volkmann (1830-1889) and 4) Kocher (1841-1917)



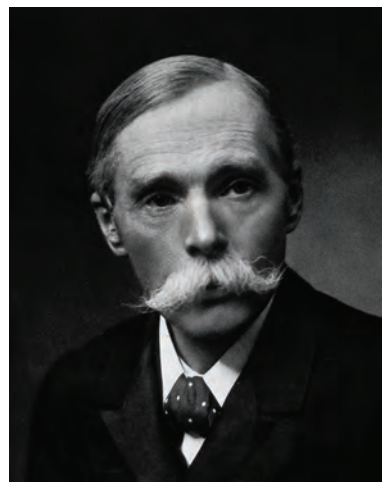
Εικ. 2: A) Η διεθνώς γνωστή τομή στον τράχηλο κατά Kocher που φέρει και το όνομά του ως «Kocher's incision». B) Η λαβίδα Kocher η οποία και σήμερα δεν λείπει από κανένα χειρουργικό τραπέζι.

Fig. 2: A) The internationally known incision in neck by Kocher that bears his name as "Kocher's incision". B) Kocher forceps which is not missing today from any surgical table.

κό κοινό. Ο ασθενής πήρε εξιτήριο λίγες μέρες μετά την επέμβαση. Επέζησε 7 χρόνια μετά την επέμβαση (Kierzek 2003). Ο Jawdyski ποτέ δεν δημοσίευσε άλλη ανάλογη επέμβαση, πιθανώς εξαιτίας του πρόωρου θανάτου του σε ηλικία 45 ετών (Towpik, 1990).

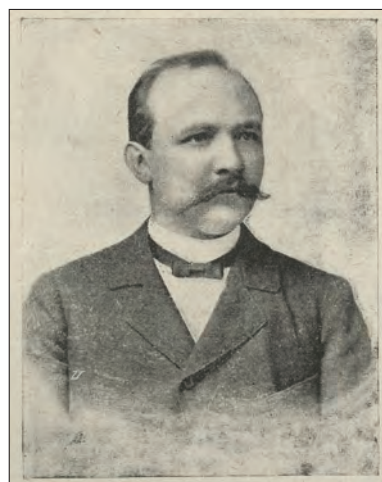
Η ιδέα της εκτομής των τραχηλικών λεμφαδένων εκλεκτικά (ή προφυλακτικά) έχει τις ρίζες της στα τέλη του 19ου και στις αρχές του 20ου αιώνα. Ο Crile το 1898 σε ομιλία του στο Royal College of Surgeons πρότεινε την εκτομή των τραχηλικών λεμφαδένων της άνω μοίρας του τραχήλου σε περιπτώσεις καρκίνου της γλώσσας με θετικό κλινικά τράχηλο.

Η επέμβαση που αποσκοπεί στην αφαίρεση των λεμφαγγείων και λεμφαδένων των τραχηλικών διαστημάτων που διηθούνται συχνά από μεταστάσεις ακανθοκυτταρικών νεοπλασμάτων της στοματικής κοιλότητας περιγράφηκε από τον Αμερικανό Crile το 1905 και 1906, και αναφέρεται διεθνώς με τον όρο «radical neck dissection». Η επέμβαση αυτή έχει περιγραφεί στην χώρα μας με τους όρους ριζική τραχηλική εκσκαφή (Μάρτης 1974), ριζική τραχηλική λεμφαδενεκτομή (Καρακάσης 1986), ριζική λεμφογαγγλιακή εκτομή του τραχήλου (Γιαννουλόπουλος 1978) και ριζικός λεμφαδενικός καθαρισμός (Ζαμπάκος 1984, Τριχίλης 1995). Συντηρητικότερες επεμβάσεις περιγράφηκαν στην χώρα μας από τους Λαζαρίδη και συν. (Λαζαρίδης και συν. 1999) με τον όρο «υπερωμοϋοειδής τραχηλική λεμφαδενεκτομή» (supraomohyoid neck lymphadenectomy). Οι αγγλικοί επίσης όροι που χρησιμοποιήθηκαν prophylactic neck dissection (από το ελληνικό προφυλάσσω=προστατεύω κάποιον ή κάτι από κίνδυνο) ή elective neck dissection (από το λατινικό eligere=μαντεύω/επιλέγω/εκλέγω) καθιερώθηκαν στις κατά καιρούς διάφορες ταξινομήσεις τραχηλικής λεμφαδενεκτομής (neck dissection) (Martis and Karakasis 1974).



Εικ. 3: Ο Butlin (1845-1912)

Fig. 3: Butlin (1845-1912)



Εικ. 4: Ο Πολωνός χειρουργός Jawdyski (1851-1896)

διηγήρησε και δημοσίευσε το 1888 στα πολωνικά μία επέμβαση που περιελάμβανε εκτεταμένη ριζική en bloc τραχηλική εκτομή (extended radical en bloc neck dissection).

Fig. 4: Polish surgeon Jawdyski (1851-1896) performed and published in 1888 in polish an operation including extended radical en bloc neck dissection.

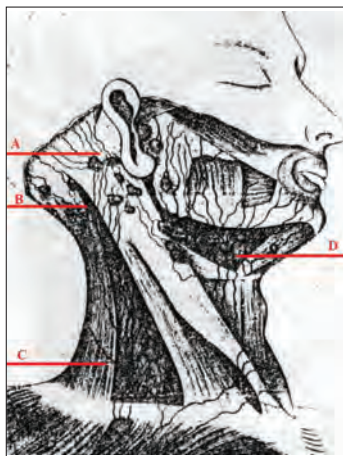


Εικ. 5: Ο Crile (1864-1943)

δημοσίευσε το 1905 και 1906 συστηματική πλέον προσπάθεια για την τέλεση της τραχηλικής λεμφαδενεκτομής.
Fig. 5: Crile (1864-1943) published in 1905 and 1906 a systematic approach for the performance of neck dissection.

Ακολουθώς παρατίθενται οι πρωτότυπες λεζάντες των εικόνων (6-15) από τις αντίστοιχες δημοσιεύσεις του Crile (1905-1906) στην αγγλική, μαζί με ελεύθερη μετάφρασή τους στην ελληνική, οι οποίες είναι:

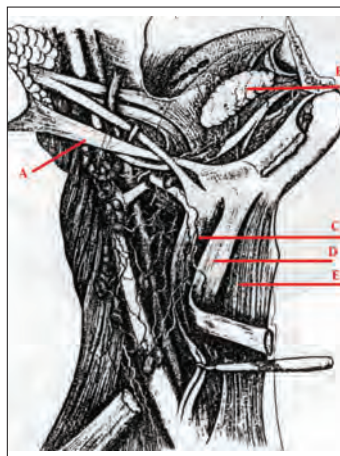
The following are the original legends of figures 6-15 from the corresponding publications of Crile (1905-1906):



Εικ. 6/Fig. 6: Crile (1905-1906) (From Gray, Poirier, Cuneo and Toldt.) The distribution of the superficial lymphatics. A) Posterior auricular glands (έτσι λεγόταν τότε οι λεμφαδένες) (οπισθοωτιαίοι λεμφαδένες) B) occipital gland (νιακοί λεμφαδένες) C) superficial cervical gland (επιπολής τραχηλικοί λεμφαδένες). D) submaxillary gland (υπογνάθιοι λεμφαδένες). Τοπογραφική ανατομική θέση των τραχηλικών λεμφαδένων.



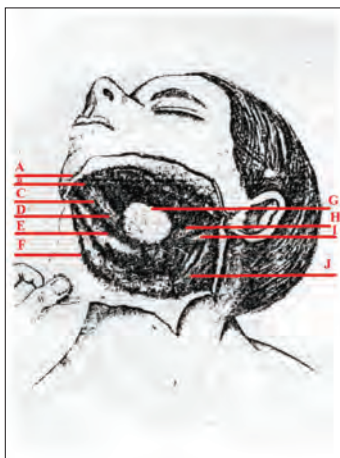
Εικ. 7/Fig. 7: Crile (1905-1906) (Gray) Emphasizing the venous tree, easy to excise in toto but difficult to dissect individually from lymphatics. Τονίζεται το φλεβικό δέντρο του τραχήλου, το οποίο είναι εύκολο να εκταμεί in toto, αλλά δυσκολότερο να διατηρηθεί, διαχωριζόμενο από τους λεμφαδένες, ώστε να εκταμούν μόνο οι τελευταίοι.



Εικ. 8/Fig. 8: Crile (1905-1906) In cancer of the tongue the metastases extend well down as this cut illustrates. Sometimes the first point of metastasis is in the gland lying between the internal jugular and the omohyoid. A) posterior belly of digastric. B) submaxillary gland. C) thyrohyoid. D) omohyoid. E) sternohyoid. Σε καρκίνο της γλώσσας η μετάσταση επεκτείνεται εύκολα προς τα κάτω, όπως δείχνει η εικόνα και μάλιστα στον σφαγιτιδομυοειδή λεμφαδένα. A) οπίσθια γαστέρα του διγαστρο. B) υπογνάθιος αδένας. C) Θυρεοϋοειδής μυς. D) Ωμοϋοειδής μυς. E) Στερνοϋοειδής μυς.



Εικ. 9/Fig. 9: Crile (1905-1906) An incision which exposes the regional lymphatics which are excised in cases of lateral cancer of the lip without palpable metastases. After metastases have occurred, excision of the entire lymphatic bearing tissue of the side of the neck should be done. Τομή προσπέλασης επιχώριων τραχηλικών λεμφαδένων, οι οποίοι εκτέμνονται σε περιπτώσεις καρκίνου της πλάγας μοίρας του κάτω χείλους, όταν δεν υπάρχουν ψηλαφητοί λεμφαδένες. Όταν θα εμφανιστούν ψηλαφητές τραχηλικές μεταστάσεις, θα πρέπει να διενεργηθεί εκτομή όλων των λεμφαδένων της σύστοιχης πλευράς του τραχήλου.



Εικ. 10/Fig. 10: Crile (1905-1906) (Continuation of {εικόνα 9}.) The regional lymphatic bearing tissue is removed by a block dissection, leaving the salivary gland in the cases in which the lymphatics are free from metastases, and excising it when any of the regional glands are involved. A) submental. B) facial veins and artery. C) gustatory. D) digastric. E) submaxillary. F) platysma. G) parotid gland. H) lingual. I) digastric. J) sternocleidomastoid. (συνέχεια της 9) Οι επιχώριοι λεμφαδένες εκτέμνονται en bloc αφήνοντας τον υπογνάθιο σιελογόνο αδένά σε περίπτωση κατά την οποία το λεμφικό σύστημα της περιοχής είναι ελεύθερο μεταστάσεων. Ο υπογνάθιος σιελογόνος αδένας συνεκτέμνεται όταν οποιοσδήποτε λεμφαδένας είναι διηθημένος. A) υπογενειδίο. B) προσωπική αρτηρία και φλέβα. C) γλωσσοφαρυγγικό νεύρο. D) διγαστρος μυς. E) υπογνάθιος αδένας. F) μυώδες πλάτυσμα. G) παρωτίδα. H) Γλωσσικό νεύρο. I) διγαστρος μυς. J) στερνοκλειδομastoειδής μυς.

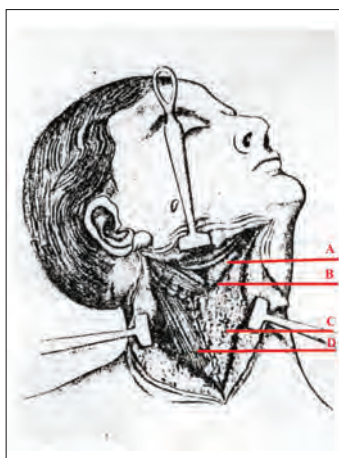


Εικ. 11/Fig. 11: Crile (1905-1906)

Drawing from a case of epithelioma of the face near the ear. There were no palpable glands. The local block dissection here included a portion of the sternomastoid so as to afford a better exposure of the parotid group of glands, thereby protecting against injury of the facial nerve or the jugular. In this instance the lower part of the parotid gland was excised. The submaxillary was left. A) stylohyoid. B) digastric. D) internal carotid. F) carotid. G) sternocleidomastoid. H) submaxillary gland. I) hypoglossal. J) thyroid. K) external carotid. L) omohyoid. M) platysma. N) internal jugular.

Σχηματική παράσταση από περίπτωση επιθηλώματος (ακανθοκυτταρικού καρκινώματος) του προσώπου κοντά στο πτερύγιο του ωτός. Δεν υπήρχαν ψηλαφητοί λεμφαδένες. Διενεργήθηκε μονοπαγής τραχηλική λεμφαδενεκτομή η οποία περιελάμβανε μείρα του στερνοκλειδομαστοειδούς μυός, για την καλύτερη προσπέλαση των λεμφαδένων της παρωτιδικής ομάδας, προστατεύοντας από τρώση το προσωπικό νεύρο και την έσω σφαγίτιδα. Ο υπογνάθιος σιελογόνος αδένας αφέθηκε άθικτος, ενώ αφαιρέθηκε το κατώτερο τμήμα της παρωτίδας. Στη συνέχεια, στην εικόνα κατονομάζονται τα ανατομικά στοιχεία, όπως έσω καρωτίδα, κοινή καρωτίδα, στερνοκλειδομαστοειδής μυς, υπογνάθιος σιελογόνος αδένας, υπογλώσσιο νεύρο, άνω θυρεοειδής αρτηρία και έξω καρωτίδα αρτηρία, ωμούοιδής μυς, μυώδες πλάτυσμα και έσω σφαγίτιδα φλέβα.

A. βελονοειδής απόφυση B. διγαστορας μυς D. έσω καρωτίδα αρτηρία F. κοινή καρωτίδα αρτηρία G. στερνοκλειδομαστοειδής μυς H. υπογνάθιος αδένας. I. υπογλώσσιο νεύρο. J. θυρεοϋοειδής μυς. K. έξω καρωτίδα αρτηρία L. ωμούοιδής μυς M. μυώδες πλάτυσμα. N. έσω σφαγίτιδα.



Εικ. 12/Fig. 12: Crile (1905-1906)

(Continuation of 6 {εικόνα 11}). A method of closing the deeper plane of the neck by suturing the longitudinally split border of the sternomastoid to the platysma and the digastric. A. submaxillary gland. B. posterior belly of digastric. C. platysma. D. sternomastoid.

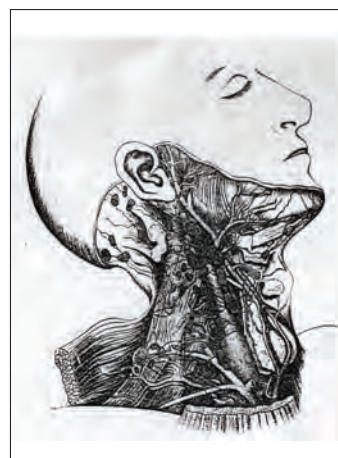
(Συνέχεια της 11) Μέθοδος σύγκλεισης του εν τω βάθει τραχηλικού επιπέδου με συρραφή των χειλών του στερνοκλειδομαστοειδούς με το μυώδες πλάτυσμα και τον διγαστορα μυ. A) Υπογνάθιος αδένας B) Οπίσθια γαστέρα του διγαστορα C) Μυώδες πλάτυσμα D) Στερνοκλειδομαστοειδής μυς.



Εικ. 13/Fig. 13: Skin incision for block excision

of the gland bearing tissue of the entire side of the neck. A procedure always done when glands involved.

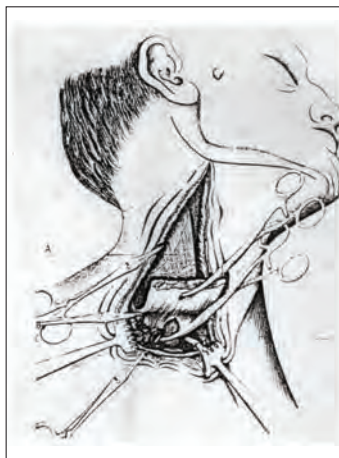
Τομή του δέρματος του τραχήλου για εκτομή εμφανούς κλινικά block μεταστατικών λεμφαδένων σε ολόκληρη την πλευρά του τραχήλου. Τέτοια επέμβαση διενεργείται πάντα όταν λεμφαδένες έχουν προσβληθεί από τη νόσο.



Εικ. 14/Fig. 14: (Modified from Gray and Cuneo) The

intimate relationship between the venous and the lymphatic systems and the difficulty of entirely excising the lymphatic system and leaving the venous intact. Also, how easily both may be excised together.

«Τροποποιημένη ανατομική εικόνα από τους Gray και Cuneo». Η εικόνα δείχνει την στενή σχέση μεταξύ του φλεβώδους και λεμφικού συστήματος του τραχήλου, και την δυσκολία της ολοκληρωτικής εκτομής του λεμφικού συστήματος με ταυτόχρονη διατήρηση άθικτου του φλεβικού συστήματος.



Εικ. 15/Fig. 15: The sternomastoid is divided near the clavicle. The vein is exposed, tied in two places, and divided. The carotid is closed with the author's special clamp. The skin and the platysma are then dissected back on the entire side of the neck. The deep plane of the neck down to the region having no lymphatic gland tissue is opened from below and laterally upward, and the relation of the sternomastoid muscle and the cervical fascia is noted. The most complex exposure of the deep lymphatics is afforded by a complete excision of this muscle. This and the following cut suggest again the necessity of doing a dissection in planes parallel to the surface. A. sternocleidomastoid. B. external jugular. C. internal jugular. D. common carotid.

Ο στερνοκλειδομαστοειδής μυς τέμνεται κοντά στην κλείδα. Η έσω σφαγίτιδα φλέβα αποκαλύπτεται, απολινώνεται σε 2 θέσεις και διατέμνεται. Η καρωτίδα συλλαμβάνεται με ειδική του συγγραφέα αιμοστατική λαβίδα. Το δέρμα και το μυώδες πλάτυσμα κατόπιν παρασκευάζονται (ως κρημνοί) σε ολόκληρη την πλευρά του τραχήλου. Το εν τω βάθει πεδίο του τραχήλου παρασκευάζεται εκ των κάτω και πλάγια προς τα άνω (χωρίς να εγκαταλείπονται λεμφικοί ιστοί). Η πλέον ριζική αποκάλυψη των εν τω βάθει τραχηλικών λεμφαδένων πραγματοποιείται με την εκτομή του στερνοκλειδομαστοειδούς μυός. Το γεγονός αυτό και ο υπόλοιπος λεμφογαγγλιακός καθαρισμός υποστηρίζουν πάλι την αναγκαιότητα τέλει της λεμφαδενεκτομής σε επίπεδα παράλληλα με την δερματική επιφάνεια. A) Στερνοκλειδομαστοειδής B) Έξω σφαγίτιδα C) Έσω σφαγίτιδα D) κοινή καρωτίδα.

ΣΥΝΤΟΜΗ ΒΙΟΓΡΑΦΙΑ ΤΟΥ CRILE

Ο George Washington Crile (εικ. 5) γεννήθηκε το 1864 στο Chili, Ohio. Αποφοίτησε από το Ohio Northern University το 1885, και έλαβε το πτυχίο Ιατρικής (M.D.) το 1887 από το Wooster Medical College. Συνέχισε τις σπουδές του στο εξωτερικό, στην Ευρώπη (Βιέννη, Λονδίνο, Παρίσι). Κατόπιν, επί 11 χρόνια δίδαξε στο Wooster Medical College (1889-1900). Διετέλεσε καθηγητής Κλινικής Ιατρικής στο Western Reserve University από το 1900 ως το 1911, και κατόπιν αναγορεύτηκε καθηγητής της Χειρουργικής. Υπήρξε διευθυντής της Χειρουργικής στο University Hospitals Case Medical Center από το 1910 έως το 1924. Οι συνεισφορές του στην μελέτη της φυσιολογίας της πίεσης του αίματος και του shock στις χειρουργικές επεμβάσεις ήταν ιδιαίτερα σημαντικές. Μετά την διαπίστωση ότι δυνατά συναισθήματα, όπως ο φόβος πριν την διενέργεια της χειρουργικής επέμβασης, θα μπορούσαν να οδηγήσουν σε shock, προσπάθησε να απαλύνει την ψυχική φόρτιση με ψυχολογική υποστήριξη, και ταυτόχρονα έκανε προσπάθειες να αποτρέψει το υποκειμενικό shock το οποίο επηρεάζει δυσμενώς τον ασθενή, ακόμη και όταν βρίσκεται υπό γενική αναισθησία με αναισθητοποίηση της περιοχής που θα χειρουργηθεί με κοκαΐνη, λίγες μέρες πριν την χειρουργική επέμβαση. Τιμήθηκε με χρυσό μετάλλιο από το National Institute of Social Sciences το 1914. Ο Crile δημοσίευσε τα βιβλία *Surgical Shock* (Χειρουργική Καταπληξία) (1897), *On the Blood Pressure in Surgery* (Σχετικά με την Πίεση του Αίματος στην Χειρουργική) (1903), *Hemorrhage and Transfusion* (Αιμορραγία και Μετάγγιση) (1909), *Surgical Anemia and Resuscitation* (Χειρουργική Αναιμία και Αναζωογόνηση) (1914), *The Origin and Nature of philosophy* (Η Προέλευση και η Φύση της Φιλοσοφίας) (1918), *The Surgical Treatment of Hypertension* (Η Χειρουργική Αντιμετώπιση της Υπέρτασης) (1938). Απεβίωσε στις 7 Ιανουαρίου 1943 στο Cleveland.

ΤΡΑΧΗΛΙΚΗ ΛΕΜΦΑΔΕΝΕΚΤΟΜΗ ΚΑΤΑ CRILE (1905, 1906)

Στην δημοσίευση του 1905 ο Crile περιέγραψε συστηματική προσπέλαση τέλεσης της τραχηλικής λεμφαδενεκτομής σε 121 επεμβάσεις που διενεργήθηκαν σε 105 ασθενείς. Η πρώτη αυτή δημοσίευση του Crile (Crile 1905) αποτελούνταν από 20 σελίδες οι οποίες εμπλουτίστηκαν και με 12 αξιόλογες, για την εποχή εκείνη, σχηματικές παραστάσεις κεφαλής και τραχήλου. Η εργασία ολοκληρώθηκε με ενδιαφέρουσα συζήτηση 9 σελίδων, όπου τέθηκαν θέματα όπως η εφαρμογή λιγότερο ριζικής τραχηλικής λεμφαδενεκτομής (δηλαδή συντηρητικότερης επέμβασης) για περιπτώσεις έγκαιρης διάγνωσης της πρωτοπαθούς εστίας ή και όταν η πρωτοπαθής εστία βρίσκεται σε συγκεκριμένες ανατομικές θέσεις (με αρνητικό κλινικά τράχηλο). Μολονότι, μετα-

cal safe margins excision and introduced his own access incisions for the performance of neck dissection, from which one has been known by his name as "Kocher incision" (figure 2). Kocher suggested that in every neck dissection all the submandibular triangle's lymph nodes should be removed, and that the excision of the primary tumor in tongue cancer should be performed with a transcervical approach. In 1882, von Volkman (Volkman 1882) published two cases of radical en bloc dissection. Both patients died soon after the surgery. In 1885, British surgeon Butlin (Butlin 1885) (figure 3) preferred selective or elective neck dissection in cases of tongue cancer. In 1888, Jawdyski (Jawdyski 1888) (figure 4), a Polish surgeon, performed a surgery of extended radical en bloc neck dissection. This surgical procedure was published in *Gazeta Lekarska*, a Polish journal and the paper remained unknown to the medical community. The patient was discharged a few days after the surgery. He survived 7 years after the surgery (Kierzek 2003). Jawdyski never published another similar surgical procedure, possibly due to his premature death at the age of 45 (Towpik, 1990).

The concept of selective (or elective) neck dissection has its roots at the end of the 19th and the beginning of the 20th century. During a speech at the Royal College of Surgeons in 1898, Crile suggested the excision of lymph nodes of the upper part of the neck in cases of tongue cancer with clinically positive neck.

The surgery aiming to remove the lymphatic vessels and nodes of the neck spaces that are often spread with squamous cell carcinomas metastases of the oral cavity was described by the American surgeon Crile in 1905 and 1906 and is widely reported as "radical neck dissection". This surgery has been described in our country with the terms radical neck excavation (Martis 1974), radical neck lymphadenectomy (Karakasis 1986), radical lymphatic ganglion excision of the neck (Giannoulou-poulos 1978) and radical lymph node surgical removal (Zambakos 1984, Trichilis 1995). More conservative surgeries have been described in our country by Lazarides et al. (Lazarides et al. 1999) with the term "supra-omohyoid neck lymphadenectomy". Furthermore, the English terms used were prophylactic neck dissection (from the greek *profiláso*=protect someone or something from danger) or elective neck dissection (from the latin *eligere*=guess/choose/elect) and were established during various neck dissection classifications (Martis and Karakasis, 1974).

SHORT BIOGRAPHY OF CRILE

George Washington Crile (figure 5) was born in 1864 in Chili, Ohio. He graduated from Ohio Northern University in 1885 and received his M.D. in 1887 from Wooster Medical College. He continued his studies abroad in Eu-

γενέστερα, σπάνια αναφέρονταν από άλλους συγγραφείς η εργασία αυτή του Crile του 1905 εξαιτίας του ότι ήταν δυσεύρετη (δημοσιεύτηκε στα πρακτικά περιοδικού), παρόλα αυτά ήταν εργασία-ορόσημο που καθιέρωσε τις βασικές αρχές της τραχηλικής λεμφαδενεκτομής. Σε αυτήν περιγράφεται η μονοπαγής (en bloc) εκτομή των τραχηλικών λεμφαδένων και μη λεμφικών δομών του τραχήλου είτε κατά συνέχεια ιστών με την πρωτοπαθή βλάβη, είτε σε δεύτερο χρόνο, μετά την εκτομή της πρωτοπαθούς βλάβης, και εφόσον εμφανίζονταν τραχηλικές μεταστάσεις (wait-and-watch strategy), που ακόμη και σήμερα εφαρμόζεται από ορισμένους). Το 1906 ο Crile δημοσίευσε πάνω στο ίδιο θέμα δεύτερο άρθρο για την «en bloc neck dissection». Αυτή την φορά δημοσιεύει την εργασία του στο Journal of American Medical Association, και αναφέρει τα αποτελέσματα από 132 επεμβάσεις χρησιμοποιώντας τις ίδιες σχηματικές παραστάσεις που είχε και στην προηγούμενη δημοσίευση του 1905. Και σε αυτήν του την εργασία ο Crile κατέγραψε ενδιαφέρουσα συζήτηση στο άρθρο του. Αν και η πρώτη δημοσίευση του 1905, έμεινε αφανής, η δεύτερη, του 1906, επειδή δημοσιεύθηκε σε επιστημονικό περιοδικό με κύρος και μεγάλο αναγνωστικό κοινό σε όλο τον τότε επιστημονικό κόσμο, επηρέασε την ιατρική κοινότητα, αλλά και συνέβαλε στην εξέλιξη της θεραπείας του καρκίνου κεφαλής και τραχήλου. Και οι 2 δημοσιεύσεις (1905-1906) είχαν τις ίδιες εικόνες (εικ. 6, 7, 8, 9, 10, 11, 12, 13, 14, 15) και ήταν σχεδόν όμοιες σε περιεχόμενο εκτός από το γεγονός ότι προστέθηκαν τα αποτελέσματα 11 επιπλέον περιπτώσεων ασθενών στην τελευταία δημοσίευση του 1906.

Οι χειρουργοί στα τέλη του 19ου αιώνα, όπως αναφέραμε στην αρχή γνώριζαν την αρνητική προγνωστική σημασία των τραχηλικών μεταστάσεων. Κάποιοι προσπάθησαν, χωρίς αποτέλεσμα, να θεραπεύσουν τέτοιες λεμφαδενικές τραχηλικές μεταστατικές μάζες. Αργότερα, όμως, εισήχθησαν πιο αποτελεσματικές επεμβάσεις, που περιελάμβαναν εκτομή ακόμη και εκλεκτικά (κλινικά αρνητικός τράχηλος) πιθανής λεμφικής διασποράς από συγκεκριμένες πρωτοπαθείς εστίες (Folz 2007, Ferlito et al. 2007). Ο Crile πρόσθεσε, στις προηγούμενες ανομοιογενείς γνώσεις για την φύση και συμπεριφορά των τραχηλικών μεταστάσεων την δική του άποψη, ότι δηλαδή υπήρχε η δυνατότητα οι διηθημένοι τραχηλικοί λεμφαδένες να εκταμούν πιο συστηματικά, και να αντιμετωπιστούν οριστικά. Επίσης, περιέγραψε και την ιδιαίτερα επιτυχημένη τεχνική της en bloc εκτομής όλων των εν τω βάθει λεμφαγγείων και λεμφαδένων του τραχήλου, που είχε ως αποτέλεσμα την αύξηση του προσδόκιμου επιβίωσης τέτοιων ασθενών. Οι αντιλήψεις του Crile και τα συμπεράσματα στα οποία κατέληξε διαμορφώθηκαν με την πάροδο των χρόνων και με συνεχή επανεκτίμηση των χειρουργηθέντων ασθενών του, καθόσον ο ίδιος διενήργησε 132

rope (Vienna, London, Paris). Afterwards, he taught at Wooster Medical College for 11 years (1889-1900). He was a Professor of Clinical Medicine at University Hospitals Case Medical Center from 1910 until 1924. His contributions in the study of the physiology of blood pressure and shock in surgical procedures were very important. After the ascertainment that strong emotions, such as preoperative fear, could lead to shock, he tried to relieve the psychological pressure with psychologic support and he simultaneously tried to avert subjective shock, which has a negative impact on the patient, even when he is under general anesthesia with anesthetization of the surgical area with cocaine a few days before surgery. He was honored with a gold medal from the National Institute of Social Sciences in 1914. Crile published the books "Surgical Shock" (1897), "On the Blood Pressure in Surgery" (1903), "Hemorrhage and Transfusion" (1909), "Surgical Anemia and Resuscitation" (1914), "The Origin and Nature of philosophy" (1918), "The Surgical Treatment of Hypertension" (1938). He died on January 7th, 1943 in Cleveland.

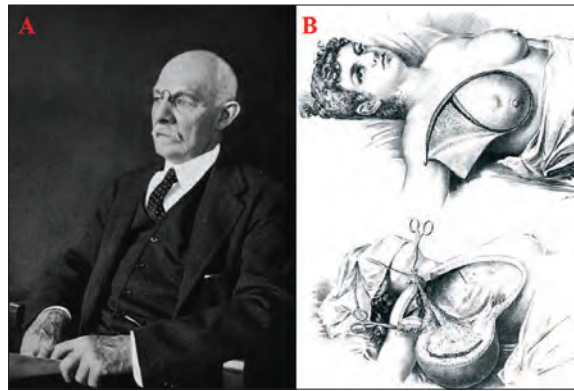
CRILE'S NECK DISSECTION

In 1905's publication, Crile described a systematic approach for the performance of neck dissection in 121 procedures on 105 patients. This first publication of Crile (Crile 1905) was 20 pages long and was enriched with 12 sophisticated graphic charts of the head and neck for the time. The paper was completed with an interesting 9-page discussion, where subjects such as the performance of a less radical neck dissection (meaning a more conservative surgical procedure) in cases of timely diagnosis of the primary tumor and/or when the primary tumor is located in specific anatomical regions (with a clinically negative neck), were being discussed. Although it was rarely mentioned by other authors, because it was hard to be accessed (it was published in the proceedings of a journal), it was a monumental work that established the basic principles of neck dissection. In this paper, en bloc neck dissection and non-lymphatic structures are being described either together with tissues of the primary tumor, or later, after the removal of the primary tumor, if neck metastases are present (wait-and-watch strategy), which is being implemented by some surgeons. In 1906 Crile published a second article on the same subject for en bloc neck dissection. This time the paper is published in the Journal of American Medical Association and reports the results from 132 surgeries using the same graphic charts from the previous publication in 1905. In this paper Crile also listed an interesting discussion in his article. Although the first publication in 1905 remained unknown, the second one in 1906 impacted the medical community, since it was published in a prestigious and well-known scientific journal, and contributed

περιπτώσεις τραχηλικής λεμφαδενεκτομής, σε ασθενείς διαφόρων ογκολογικών σταδίων. Δεν δίστασε μάλιστα να τροποποιήσει τις ενδείξεις και τις τεχνικές του, μετά από ανάλυση των προηγούμενων αποτυχιών. Έχει σημαντικό ενδιαφέρον η μελέτη της ανατομικής και ογκολογικής βάσης του έργου του Crile, υπό το πρίσμα των προβλημάτων που αντιμετώπιζε λόγω της περιορισμένης ιατρικής τεχνολογίας της εποχής του, καθώς και της φύσεως των χειρουργικών του επεμβάσεων και αποτελεσμάτων του.

ΒΑΣΙΚΕΣ ΑΡΧΕΣ ΧΕΙΡΟΥΡΓΙΚΗΣ ΟΓΚΟΛΟΓΙΑΣ ΤΗΝ ΕΠΟΧΗ ΤΟΥ CRILE

Οι αρχές της χειρουργικής ογκολογίας της εποχής του Crile επηρεάστηκαν καθοριστικά από τον Halsted (ριζική μαστεκτομή κατά Halsted) (Halsted 1891). Η ιδέα της en bloc εκτομής του Halsted για τον καρκίνο του μαστού έγινε ευρέως αποδεκτή και δημοφιλής και επί 7 δεκαετίες περίπου η τεχνική αυτή εφαρμόζοταν σε ασθενείς με εξαιρεσιμο καρκίνο του μαστού (εικ. 16). Κατά την τεχνική αυτή αφαιρούνταν η πρωτοπαθής εστία μαζί με τα λεμφαγγεία και τους επιχώριους μασχαλιαίους λεμφαδένες κατά συνέχεια ιστών, με συναφαίρεση τόσο του μείζονος όσο και του ελάσσονος θωρακικού μυός. Αντίστοιχα στην ριζική τραχηλική λεμφαδενεκτομή θα έπρεπε να εκτέμνεται ο στερνοκλειδομαστοειδής μυς για να επιτευχθεί καλύτερη χειρουργική προσπέλαση των υποκείμενων λεμφαγγείων και λεμφαδένων. Όμως δεν διαπιστώθηκε περαιτέρω ογκολογικό όφελος, πέρα από την ευχερέστερη προσπέλαση των λεμφαδένων του τραχήλου, από την εκτομή του στερνοκλειδομαστοειδούς μυός. Στην ριζική πάλι μαστεκτομή η μασχαλιαία φλέβα εκτέμνονταν για να επιτευχθεί πληρέστερος λεμφαδενικός καθαρισμός της περιοχής. Στην ριζική τραχηλική λεμφαδενεκτομή ολόκληρο το φλεβικό σύστημα της πλάγιας μοίρας του τραχήλου περιλαμβάνονταν στην en bloc εκτομή των τραχηλικών ιστών για τον ίδιο σκοπό. Οι αναλογίες στην τέλεση επεμβάσεων που αφορούσαν το επιχώριο λεμφαγγειακό δίκτυο μεταξύ περιπτώσεων που αφορούσαν καρκίνο κεφαλής και τραχήλου και περιπτώσεων καρκίνου του μαστού παρέμειναν σε ισχύ για πάνω από έναν αιώνα. Μετά από κάθε αναθεώρηση της χειρουργικής προσέγγισης του καρκίνου του μαστού, υπήρχε αντίστοιχη αναθεώρηση και για την χειρουργική του καρκίνου κεφαλής και τραχήλου. Ο Crile διαπίστωσε ότι ο καρκίνος της κεφαλής και του τραχήλου συνήθως μεθίσταται στους τραχηλικούς λεμφαδένες και σπάνια ανευρίσκονται απομακρυσμένες μεταστάσεις (εικ. 8). Ο ίδιος έθεσε ως δεδομένο ότι «ένα κολάρο (δίκην περιλαιμίου) λεμφαγγείων και λεμφαδένων σχηματίζει έναν εκπληκτικό φραγμό διαμέσου του οποίου ο καρκίνος σπάνια μπορεί να διαφύγει και να κάνει απομακρυσμένες μεταστάσεις. Κάθε τμήμα όμως αυτού του φραγμού

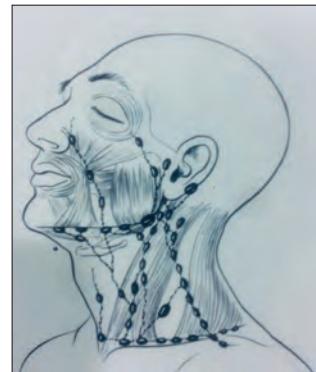


Εικ. 16: Α. Ο Halsted (1852-1922) ένας από τους μεγαλύτερους χειρουργούς των αρχών του 20ου αιώνα και ο πρώτος που εισήγαγε την χρήση χειρουργικών γαντιών και μασκών στην Χειρουργική. Β. Σχηματική παράσταση από τον Halsted που παρουσιάζει την τεχνική της ριζικής μαστεκτομής η οποία διεθνώς φέρει και το όνομά του "Halsted's mastectomy".

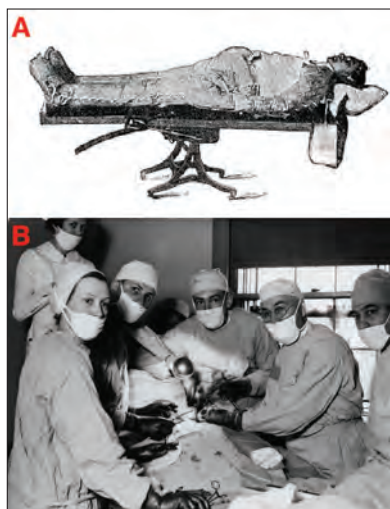
Fig. 16: A) Halsted (1852-1922), one of the greatest surgeons in the beginning of the 20th century and the first one to introduce the use of surgical gloves and masks in Surgery. B) Graphic diagram from Halsted presenting the technique of radical mastectomy, which is termed internationally "Halsted's mastectomy".

Εικ. 17: Σχηματική παράσταση των τραχηλικών λεμφαδένων, που ο Crile παρομοίασε με "περιλαίμιο-κολάρο".

Fig. 17: Graphic diagram of neck lymph nodes, that Crile described as "collar".



to the evolution of the treatment of head and neck cancer. Both publications (1905-1906) had the same figures (figures 6-15) and were almost identical in content except from the fact that the results of 11 more case reports were added in the latter publication in 1906. Surgeons in the end of the 19th century, as we mentioned in the beginning, knew the negative prognostic value of neck metastases. Some of them unsuccessfully attempted to treat such neck lymph node metastases by removing only the bulky neck metastatic masses. However, later on, more effective procedures were introduced, including even selective removal (clinically negative neck) of a possible lymphatic spread from certain primary tumors (Folz 2007, Ferlito et al. 2007). Crile added his own opinion in the earlier disparate knowledge about the nature and behavior of neck metastases, that it was possible for the affected neck lymph nodes to be removed more systematically and to be permanently treated. Furthermore, he also described the highly successful technique of en bloc dissection of all the lymphatic vessels and lymph nodes of the neck, resulting in the increase of the survival of such patients. Crile's concepts and conclusions were elaborated with time and with a continuous re-evaluation of his patients, since he performed 132 neck dissections in patients of various oncologic stages. He didn't hesitate to modify his indications and techniques, after the analysis of previ-



Εικ. 18: Α. Η προετοιμασία του ασθενούς στο χειρουργείο για τραχηλική λεμφαδενεκτομή neck dissection (neck dissection) την εποχή του Crile, όπου φαίνεται η ελαστική φόρμα που την φούσκωναν με αέρα για την πρόληψη του κινδύνου του υπογκαιμικού shock.

Β. Ο Crile με την ομάδα του στο χειρουργείο για την τέλεση της επέμβασης. Διακρίνονται οι μάσκες και τα χειρόκτια που πρώτος εισήγαγε ο Halsted το 1889.

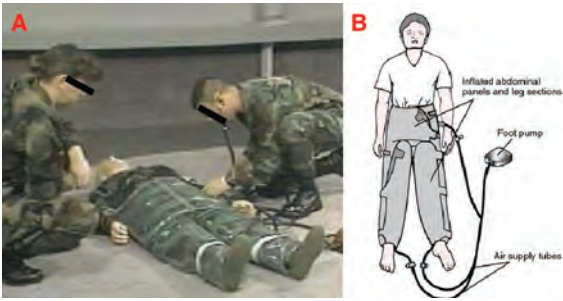
Fig. 18: Α) Patient preparation for neck dissection surgery in Crile's era, where the rubber uniform being inflated with air for the prevention of hypovolemic shock is being shown. Β) Crile with his team in surgery for the performance of the surgery. The masks and gloves that were first introduced by Halsted in 1889.

είναι εγχειρητικά προσπελάσιμο» (Crile 1906) (εικ. 17). Έτσι η εκτομή κατά συνέχεια ιστών των τραχηλικών λεμφαδένων, με ή χωρίς εκτομή της πρωτοπαθούς καρκινικής βλάβης, ήταν εφικτή. Σε μελέτη 4500 περιπτώσεων καρκίνου κεφαλής και τραχήλου που προετοιμάστηκαν από τον Crile, και ανατέθηκαν σε συνάδελφό του για ολοκλήρωση της κοπιαστικής αυτής μελέτης, απομακρυσμένες μεταστάσεις διαπιστώθηκαν μόνο στο 1% των περιπτώσεων. Έτσι, ο Crile συμπέρανε ότι η συντριπτική πλειοψηφία των όγκων παραμένει περιορισμένη στην περιοχή πάνω από την κλείδα. Οι λεμφικές αυτές δομές στον τράχηλο διατάσσονται σε ομάδες, σε κάθε πλευρά του τραχήλου, κατά μήκος των μεγάλων φλεβών και γι' αυτό είναι δυνατόν να προσεγγιστούν εξ' ολοκλήρου χειρουργικά και να εκταθούν. Επίσης, ο Crile τόνισε ότι οι όγκοι της πλάγιας πλευράς της στοματικής κοιλότητας και του λάρυγγα έχουν την τάση να μεθίστανται ομόπλευρα, ενώ οι πρωτοπαθείς όγκοι που εντοπίζονται στην μέση γραμμή μεθίστανται άτυπα. Όταν η λεμφική ροή αποφραχθεί από όγκους ή από προηγούμενη χειρουργική επέμβαση, είναι δυνατόν να οδεύσει άτυπα προς οποιαδήποτε κατεύθυνση, αλλά οι μεταστάσεις πάντα περιορίζονται μέσα στην περιλαίμια περιοχή. Σήμερα, οι σύγχρονες διαγνωστικές μέθοδοι αποκάλυψαν υψηλότερα ποσοστά απομακρυσμένων μεταστάσεων, από αυτά που πίστευαν στην εποχή του Crile. Η αρχική όμως διαπίστωση του Crile στις αρχές του 20ου αιώνα

ous failures. The study of anatomical and oncologic basis of Crile's work is very interesting, in view of the problems he faced due to the limited medical technology resources of his time, as well as the nature of his surgical procedures and results.

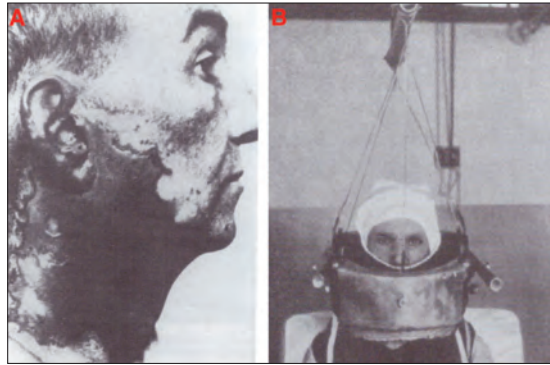
BASIC ONCOLOGIC SURGICAL PRINCIPLES IN CRILE'S TIME

The surgical oncologic principles of Crile's era were heavily influenced by Halsted (radical mastectomy by Halsted) (Halsted 1891). Halsted's concept of en bloc dissection for breast cancer was widely accepted and popular and for almost 7 decades this technique was performed in patients with breast cancer eligible for surgery (figure 16). According to this technique the primary tumor was removed together with the lymphatic vessels and regional axillary lymph nodes, with concurrent removal of both the major and the minor thoracic muscles. In radical neck dissection accordingly, the sternocleidomastoid muscle should be excised for better surgical access of the underlying lymphatic vessels and lymph nodes. However, no further oncologic benefit was observed, except from the better access of neck lymph nodes, from the excision of sternocleidomastoid muscle. Again, in radical mastectomy the axillary vein was excised for a more complete lymph node dissection of the area. In radical neck dissection the whole venous system of the lateral part of the neck was included in en bloc dissection of neck tissues for the same reason. The analogies for the performance of surgical procedures regarding the regional lymphatic network between cases of head and neck cancer and breast cancer remained valid for over a century. After every review of the surgical approach of breast cancer, there was a similar review for head and neck cancer. Crile realized that head and neck cancer usually metastasized in neck lymph nodes and distant metastases were rarely found (figure 8). He set as a fact that the "collar" of lymphatic vessels and lymph nodes forms an amazing barrier through which cancer can rarely spread for distant metastases. However, every part of this barrier is surgically accessible (Crile 1906) (figure 17). So, the excision of continuous tissues and neck lymph nodes, with or without the excision of the primary tumor, was feasible. In a study of 4500 cases of head and neck cancer prepared by Crile, who were delegated to a colleague for the completion of this arduous study, distant metastases were found only in 1% of the cases. Thus, Crile concluded that the vast majority of tumors remains limited in the supra-clavicle area. These lymphatic structures are grouped together in every side of the neck, following the major veins and this is the reason why they can be totally approached surgically and excised. Furthermore, Crile emphasized that the tumors of the lateral side of the oral cavity and the larynx tend to metastasize on the



Εικ. 19: Α.) Στην εικόνα απεικονίζεται πώς εκπαιδευμένος νοσηλεύτης διαχειρίζεται στρατιώτη με έντονη αιμορραγία και σημεία προ-shock με χρήση της ειδικής φόρμας MAST, φουσκώνοντας την. Β.) Σχηματική απεικόνιση του συστήματος λειτουργίας της MAST.

Fig. 19: A) It is demonstrated in the figure how a trained nurse is managing a soldier with intense bleeding and pro-shock signs using the special uniform MAST, by inflating it. B) Schematic depiction of the MAST operating system.



Εικ. 20: Α.) Δερματικά εγκαύματα ως επιπλοκή της ακτινοθεραπείας στην περιοχή του τραχήλου (Coutard 1924). Β.) Συσκευές ακτινοθεραπείας τραχήλου με ράδιο (Cade 1929).

Fig. 20: A) Dermal burns as a complication of radiotherapy in the neck area (Coutard 1924). B) Neck radiotherapy devices with radium (Cade 1929).

ήταν ορθή σε ότι αφορά την φυσική εξέλιξη της νόσου. Ο Crile ξεπέρασε την απαισιοδοξία η οποία ήταν κυρίαρχη μεταξύ των συγχρόνων του, αλλά και των προκατόχων του χειρουργών σε ότι αφορούσε τον μεταστατικό καρκίνο του τραχήλου, οι οποίοι θεωρούσαν ότι όταν υπάρχουν μεταστάσεις στον τράχηλο, είναι μάταιη κάθε χειρουργική προσπάθεια θεραπείας.

Γενικά, ο Crile προσδιόρισε την ταυτότητα πολλών σύγχρονων ζητημάτων για το θέμα του τραχήλου. Ο ίδιος υποψιάστηκε την βιολογική διαφορά σε ότι αφορά την συμπεριφορά της νόσου και την πρόγνωση μεταξύ ασθενών οι οποίοι είχαν ψηλαφητούς, ύποπτους για κακοήθεια, τραχηλικούς λεμφαδένες (κλινικά θετικός τράχηλος) και ασθενών που δεν είχαν ψηλαφητούς τραχηλικούς λεμφαδένες (κλινικά αρνητικός τράχηλος). Ο Crile έδειξε προτίμηση στην τέλεση ριζικής επέμβασης στους ασθενείς που είχαν ψηλαφητούς, ύποπτους για κακοήθεια, τραχηλικούς λεμφαδένες, και πιο συντηρητικές επεμβάσεις στους ασθενείς που δεν είχαν ψηλαφητούς τραχηλικούς λεμφαδένες (κλινικά αρνητικός τράχηλος). Η ιδέα της τμηματικής (segmental) (όπως την έλεγαν τότε) ή εκλεκτικής (elective) (όπως την αποκαλούμε σήμερα) τραχηλικής λεμφαδενεκτομής δεν είναι καινούργια. Μόνο οι χρησιμοποιούμενοι σήμερα όροι είναι καινούργιοι. Ο Crile πίστευε ότι η λεμφαδενεκτομή σε πρώιμες περιπτώσεις (έγκαιρη διάγνωση) και με απουσία ψηλαφητής νόσου στον τράχηλο (κλινικά αρνητικός τράχηλος) ήταν σημαντική. Αυξημένα ποσοστά θεραπείας και μειωμένα ποσοστά υποτροπής εμφανίζονταν, όταν η λεμφαδενεκτομή σε κλινικά αρνητικό τράχηλο πραγματοποιούνταν στην ίδια εγχειρητική συνεδρία με την πρωτοπαθή καρκινική βλάβη. Από τις μελέτες του συμπεράνε ότι οι ριζικές επεμβάσεις ήταν 4 φορές πιο αποτελεσματικές από λιγότερο ριζικές επεμβάσεις (εκτομή συγκεκριμένων μόνο λεμφαδένων ή καθόλου θεραπεία στον τράχηλο). Η άποψή του αυτή, με ελάχιστα υποστηρικτικά στοιχεία εκείνη την εποχή, διατηρήθηκε για δεκαετίες.

same side, while primary tumors located in the midline metastasize atypically. When the lymphatic flow is sealed from tumors or a previous surgical procedure, it is possible to go atypically to any direction, but the metastases are always limited in the area around the neck. Today modern diagnostic methods revealed higher percentages of distant metastases, from those in Crile's era. However, the initial ascertainment of Crile in the beginning of the 20th century was correct regarding the natural progress of the disease. Crile overcame the dominant pessimism among his current and former surgeons regarding metastatic neck cancer, who believed that when neck metastases were present, every surgical treatment was in vain. In general, Crile determined the identity of many current topics regarding the neck. He suspected the biological difference regarding the behavior of the disease and the prognosis between patients who had palpable, possibly malignant neck lymph nodes (clinically positive neck) and patients without palpable neck lymph nodes (clinically negative neck). Crile preferred the performance of a radical surgical procedure in patients with palpable, possibly malignant neck lymph nodes and more conservative procedures in patients without palpable neck lymph nodes (clinically negative neck). The idea of segmental (as it was named at the time) or elective (as we name it today) neck dissection isn't new. Only the terms we use today are new. Crile believed that neck dissection in premature cases (timely diagnosis) and without palpable diseased neck areas (clinically negative neck) was important. Increased percentages of cure and decreased percentages of relapse were present, when neck dissection in clinically negative neck was performed in the same surgery with the primary tumor. From his studies he concluded that radical surgical procedures were 4 times more effective from less radical ones (excision of only certain lymph nodes or no neck treatment). This opinion, with very few supporting evidence this period, was preserved for years.

ΖΗΤΗΜΑΤΑ ΠΑΘΟΦΥΣΙΟΛΟΓΙΑΣ

Αιμορραγία και shock

(Surgical Shock, Crile 1897)

Οι σύγχρονοι χειρουργοί ενδέχεται να δυσκολεύονται να κατανοήσουν τις τότε τρομερές παθοφυσιολογικές προκλήσεις για να επιτευχθεί αποτελεσματική ριζική θεραπεία καρκίνου κεφαλής και τραχήλου. Την εποχή εκείνη έλειπαν η μετάγγιση αίματος, τα αντιβιοτικά και η ενδοτραχειακή αναισθησία. Απώλεια αίματος ενός λίτρου ή και περισσότερο, ανάλογα και με την γενική κατάσταση του ασθενούς, μπορούσε εύκολα να οδηγήσει σε υποκαιμία και υπόταση, δηλαδή «shock» (όρος που καθιερώθηκε από τότε, από τον ίδιο τον Crile το 1897, και χρησιμοποιείται μέχρι και σήμερα). Την εποχή εκείνη δεν υπήρχε η δυνατότητα υποκατάστασης των απωλειών με μετάγγιση αίματος ή με χορήγηση κολλοειδών διαλυμάτων. Οι λοιμώξεις, είτε αυτές προέρχονταν από το χειρουργικό τραύμα, είτε οι μετεγχειρητικές πνευμονίες, λόγω της απουσίας, τότε, αντιβιοτικών, αντιμετωπιζόνταν μόνο με τοπικά μέσα και τις αντιρροπιστικές αντιδράσεις του οργανισμού του ασθενούς. Η πιθανότητα λοίμωξης του μετεγχειρητικού τραύματος του τραχήλου, και τότε αλλά και σήμερα ακόμη, αυξάνεται σημαντικά όταν το χειρουργικό πεδίο επιμολύνεται με τις ενδοστοματικές εκκρίσεις, κατάσταση που απαντάται όταν μονοπαγώς (en bloc) με την πρωτοπαθή εστία εξαιρείται και το τραχηλικό περιεχόμενο. Επιπλέον, η τότε αναισθησία με αιθέρα, χορηγούνταν με ανοικτή μέθοδο, με σταγόνες αιθέρα και τον ασθενή να αναπνέει αυτόματα. Κατά την διάρκεια της εισπνευστικής φάσης, η αρνητική ενδοθωρακική πίεση, μπορούσε να επιφέρει αρνητική φλεβική πίεση και έτσι να επέλθει πνευμονική εμβολή από αέρα. Τα προβλήματα αυτά δημιουργούσαν σοβαρό διεγχειρητικό κίνδυνο και αύξαναν το ποσοστό μετεγχειρητικής θνησιμότητας. Οι καινοτομίες του Crile για να αντιμετωπίσει τις δυσκολίες αυτές έπαιξαν αποφασιστικό ρόλο στην επιτυχία των χειρουργικών επεμβάσεών του, και ήταν εξίσου σημαντικές με τις πεποιοθήσεις του για ογκολογικές προσπελάσεις και μηχανισμούς. Ο Crile αφιέρωσε μεγάλο χρονικό διάστημα για να αντιμετωπίσει τον κίνδυνο του shock, και στις προηγούμενες μελέτες του αναφέρει την κατασκευή μίας λαστιχένιας, δυνάμενης να φουσκωθεί από πεπιεσμένο αέρα, στολής, η οποία κάλυπτε τα κάτω άκρα του ασθενούς και εκτεινόταν μέχρι και το πλευρικό τόξο. Η ίδια αρχή χρησιμοποιείται και σήμερα για την προστασία των πιλότων από τις αρνητικές επιδράσεις των πολλών G στα οποία εκτίθενται (εικ. 18) Κατά την διάρκεια μίας εκτεταμένης επέμβασης, η πίεση του αίματος ελέγχονταν και διατηρούνταν με αύξηση της πίεσης της λαστιχένιας στολής. Μετεγχειρητικά η λαστιχένια στολή παρέμενε μέχρι να σταθεροποιηθεί η πίεση του ασθενούς. Επιπλέον, η κοινή καρωτίδα ή η έξω καρωτίδα αρτηρία συλλαμβάνονταν με αγγειολαβίδα προσωρινά από την αρχή της επέμβασης, η οποία δεν απομακρύνονταν έως ότου

PATHOPHYSIOLOGY ISSUES

Hemorrhage and shock

(Surgical Shock Crile 1897)

For modern surgeons, it may be hard to realize the extraordinary pathophysiologic challenges of that time in order to achieve an effective radical treatment of head and neck cancer. At the time, blood transfusion, antibiotics and endotracheal anesthesia were not available. A blood loss of a liter or even more, depending on the general condition of the patient, could easily lead to hypovolemia and hypotension, which means shock (a term used from then and from Crile himself in 1897 and is used until today). At that time blood loss could not be managed with blood transfusion or administration of colloid solutions. Infections, either from surgical trauma, or postoperative pneumonias, due to the absence of antibiotics at the time, were treated only with local measures and compensatory reactions of the patient's organism. The possibility of infection of the postoperative neck trauma, then and even today, is increased substantially when the operative field is contaminated with intraoral secretions, a condition faced when the neck content is removed en bloc with the primary tumor. Furthermore, the ether anesthesia of the time was administered with an open method, with ether drops and the patient breathing automatically. During the aspiration phase, the negative thoracic pressure could infer negative venous pressure causing pneumonic embolism from air. These problems created a serious danger during surgery and increased the percentage of postoperative mortality. Crile's innovations to face these challenges played a decisive role in the success of his surgical procedures and were equally important with his beliefs about surgical approaches and mechanisms. Crile dedicated a long time to manage shock risk and in his previous studies he reports the construction of a rubber uniform inflated by compressed air, covering the patient's legs extending up to the costal arch. The same principle applies today for the protection of pilots from the negative consequences of many G's that they are being exposed to (figure 18). During an extended surgery, the blood pressure was controlled and kept stable with an increased pressure of the rubber uniform. The rubber uniform was retained postoperatively until the blood pressure of the patient was stabilized. Moreover, the common carotid or external carotid artery was captured temporarily with artery forceps from the beginning of the surgery, which was not removed until the completion of the surgery, when even the smaller vessels had coagulated and the greater vessels have already been ligated. Then, common or external carotid was released by removing the artery forceps. It is worth noting that Crile didn't mention brain complications from the technique applied to the carotids for the control of hemorrhage (Martis 1978, 1985). Venous hemorrhage was reduced by lifting

ολοκληρωνόταν πλήρως η επέμβαση, οπότε και τα μικρότερα αγγεία είχαν θρομβωθεί και τα επώνυμα αγγεία είχαν ήδη απολινωθεί. Στην συνέχεια απελευθέρωνε την κοινή ή έξω καρωτίδα με την απομάκρυνση των αγγειολαβίδων. Είναι αξιοπερίεργο που ο Crile δεν ανέφερε εγκεφαλικές επιπλοκές από την τεχνική που εφάρμοζε στις καρωτίδες για τον έλεγχο της αιμορραγίας (Martis 1978, 1985). Η φλεβική αιμορραγία μειωνόταν με το να σηκώνει τον κορμό, μερικώς, σε ημικαθιστική θέση. Η θέση αυτή, όμως, αύξησε τον κίνδυνο πνευμονικής εμβολής από φυσαλίδες αέρα, αλλά ο Crile ήταν αρκετά προσεκτικός ώστε να αποκλείσει τα επώνυμα φλεβικά στελέχη πριν τα παρασκευάσει. Η λαστικένια στολή του επέτρεπε να τοποθετεί τον ασθενή σε ημικαθιστική (ημικαθεστηκυία θέση) (anti-Trendelenburg), χωρίς να προκαλείται υπόταση. Αιμορραγία από ανοικτές επιφάνειες ιστών στην στοματική κοιλότητα, σε σύνθετης μορφής μονοπαγείς εκτομές, ελεγχόταν από τον Crile με πωματισμό, ο οποίος παρέμενε στην θέση του, μέχρι εκείνο το χρονικό σημείο που ο ασθενής μπορούσε να τον ανεχθεί, ενώ αφυπνίζοταν από την αναισθησία. Ίσως η μεγαλύτερη συμβολή του Crile στην αιμόσταση ήταν η διαπίστωση που έκανε ότι το εν τω βάθει επίπεδο της τραχηλικής λεμφαδενεκτομής του, επί της προσπονδυλικής περιτονίας που καλύπτει τους εν τω βάθει μυς του τραχήλου (σκαληνοί κ.λπ.) ήταν σχετικά ανάγγειο.

Η ιδέα του Crile με την λαστικένια στολή για να ελέγξει την υπόταση του ασθενούς που προερχόταν από την anti-Trendelenburg θέση του σώματος, χρησιμοποιήθηκε και κατά την διάρκεια του Β' Παγκοσμίου Πολέμου για να αποτρέψει την απώλεια αισθήσεων (blackout) στους πιλότους που εκτίθεντο σε υψηλά G κατά την διάρκεια των αερομαχιών. Η National Aeronautics and Space Administration (NASA) ανέλαβε να κατασκευάσει και να εξελίξει ένα «Medical Anti-Shock Trousers» (MAST) στο ερευνητικό τους κέντρο Ames την δεκαετία του '60. Το (MAST) στη συνέχεια εισήχθη την ιατρική πρακτική κατά την διάρκεια του πολέμου του Βιετνάμ (Schwab 1983). Στη συνέχεια πήρε την ονομασία «στρατιωτικό αντι-shock παντελόνι» (MAST). Το 1970 η χρήση του MAST άρχισε να εφαρμόζεται και στο Σύστημα υγείας στον τομέα των Πρώτων Βοηθειών (Kaplan 1973) (εικ. 19). Το 1977 η χρήση του MAST μπήκε στο πρωτόκολλο αντιμετώπισης τραυματιών από το Committee on Trauma of the American College of Surgeons και έγινε υποχρεωτική η παρουσία της σε όλα τα ασθενοφόρα (Dickinson 2001). Πολλά συστήματα Πρώτων Βοηθειών εξακολουθούν να κάνουν χρήση αυτής της τεχνολογίας σε κατάγματα των κάτω άκρων και της πυέλου.

ΛΟΙΜΩΞΗ

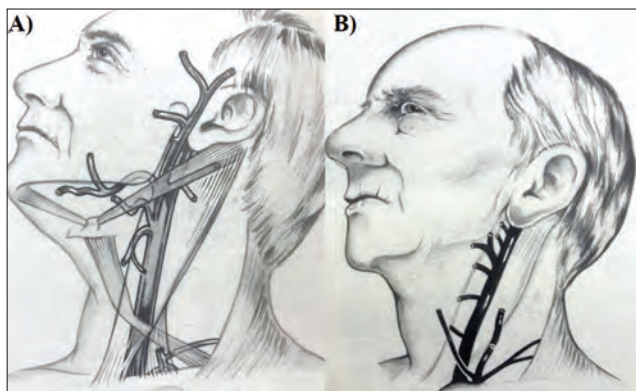
Σε καρκίνο της γλώσσας, που αφορά το ενδοστοματικό τμήμα της, (πρόσθια 2/3 της γλώσσας), ο Crile εξαιρού-

the torso, putting the patient in a semi-upright position. However, this position increased the risk of pneumonic embolism from air bubbles, but Crile was careful enough to block the greater veins before preparing them. The rubber uniform allowed him to place the patient in anti-Trendelenburg position, without causing hypotension. Hemorrhage from open tissue surfaces in the oral cavity, in complex en bloc excisions, was controlled by Crile through packing, which remained in place, as long as the patient could bear it, while recovering from anesthesia. Maybe the greater contribution of Crile in hemostasis was the ascertainment that the deeper level of his neck dissection on the pre-vertebral fascia covering the deeper muscles of the neck (scalene etc.) was relatively without blood vessels.

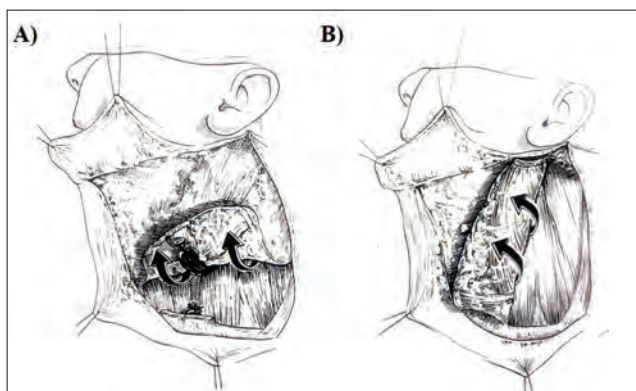
Crile's idea with the use of a rubber uniform to control patient's hypotension due to the anti-Trendelenburg body position, was also used during World War II to prevent pilots' blackout who were exposed to high G's during aircraft battles. NASA was assigned to construct and develop Medical Anti-Shock Trousers (MAST) in their research center Ames in the 1960s. MAST was then introduced in medical practice during the Vietnam war (Schwab 1983). Later it was named military anti-shock trousers (MAST). In 1970 MAST started being used in the Health Care System in First Aid (Kaplan 1973) (figure 19). In 1977 MAST was introduced in the casualty management protocol from the Committee on Trauma of the American College of Surgeons and its presence was obligatory in every ambulance (Dickinson 2001). Many First Aid systems still use this technology in fractures of the legs and the pelvis.

INFECTION

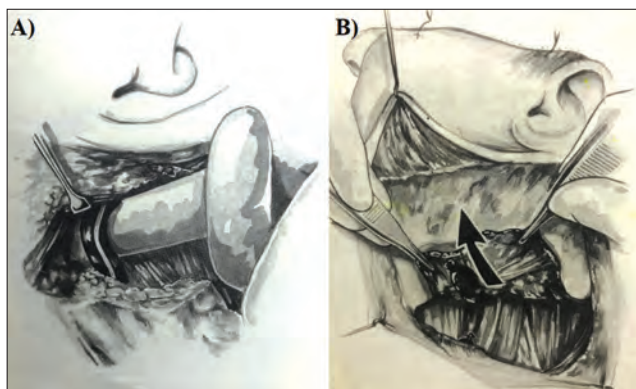
In tongue cancer affecting its intraoral part (front 2/3 of the tongue), Crile first excised the malignancy when it was possible to be removed by intraoral approach. He emphasized that "In case of the tongue, the surgical procedure is better performed in two stages". In these cases with patients with tongue cancer, as well as other intraoral tumors, Crile described his own method as follows: "The method involves placing firmly adjusted elastic tubes in the pharynx through the nostrils. Then the pharynx is packed with gauze, after the tongue is pulled out. Except from the surgeries that require the removal of the whole tongue base, a complete control of aspiration is achieved in this way." Meaning that Crile introduced two wide rubber catheters through the nose and then packed the pharynx around these rubber catheters. With this technique he minimized the possibility of aspiring blood and saliva in the lungs. Packing also compressed lingual arteries, thus limiting hemorrhage during surgery, when he operated on the tongue. In this way, the dangerous and usual complication of postop-



Εικ. 21: Σχηματική ανατομική απεικόνιση των μεγάλων αγγείων του τραχήλου Α) Της καρωτίδας, όπου δεν διακρίνονται οπίσθιοι κλάδοι, στην μεγαλύτερη έκταση του οπίσθιου τραχηλικού τριγώνου. Β) Ομοίως και για την έσω σφαγίτιδα.
Fig. 21: Schematic anatomical depiction of the great vessels of the neck A) Carotid, where no posterior branches are shown, for the most part of the posterior neck triangle. B) Similarly for inner jugular vein.



Εικ. 22: Α) Σχηματική παράσταση της κατά Crile και Hayes Martin ριζικής τραχηλικής λεμφαδενεκτομής, στην οποία η κύρια κατεύθυνση παρασκευής των προς εκτομή τραχηλικών ιστών είναι εκ των κάτω προς τα άνω (βέλη). Β) Σχηματική παράσταση της κατά McGregor ριζικής τραχηλικής λεμφαδενεκτομής, στην οποία η κύρια κατεύθυνση παρασκευής των προς εκτομή τραχηλικών ιστών είναι εκ των οπίσω προς τα εμπρός (βέλη).
Fig. 22: A) Schematic diagram of Crile's and Hayes Martin's radical neck dissection, in which the main preparation direction of the neck tissues to be dissected is from the bottom up (arrows). B) Schematic diagram of McGregor's radical neck dissection, in which the main preparation direction of the neck tissues to be dissected is from the posterior to the anterior (arrows).



Εικ. 23: Α) Σχηματική παράσταση της προσέγγισης του άνω πόλου της έσω σφαγίτιδας μετά την διατομή του στερνοκλειδομαστοειδούς μυός στην περιοχή της κατάφυσής του στην μαστοειδή απόφυση. Η προσέγγιση αυτή θεωρείται πολύ πλεονεκτική για τον επεμβαίνοντα αφού υπό άμεση ορατότητα θα απολινώσει και θα διατάμει την σφαγίτιδα στην περιοχή αυτή. Β) Στην κατά Hayes Martin τεχνική ο χειρουργός αισθάνεται κάποια ανασφάλεια στην προσπάθειά του να απολινώσει τον άνω πόλο της έσω σφαγίτιδας, αφού η όλη διαδικασία δεν τελείται υπό άμεση ορατότητα.
Fig. 23: A) Schematic diagram of the approach of the upper pole of inner jugular vein after the excision of sternocleidomastoid muscle in the area of its insertion in the mastoid process. This approach is considered very beneficial for the surgeon since he will ligate and excise the jugular in this area under direct vision. B) In Hayes Martin's technique the surgeon feels a little uncertain in his attempt to ligate the upper pole of internal jugular vein, since the whole process is not performed under direct vision.

σε σε πρώτο στάδιο την κακοήγη εξεργασία όταν αυτή ήταν δυνατόν να αφαιρεθεί με ενδοστοματική προσπέλαση. Ο ίδιος για το θέμα αυτό τόνισε ότι «Στην περίπτωση της γλώσσας η επέμβαση διενεργείται καλύτερα σε δύο στάδια». Στις περιπτώσεις αυτές σε ασθενείς με καρκίνο της γλώσσας, καθώς και για περιπτώσεις άλλων ενδοστοματικών όγκων ο Crile περιέγραψε την δική του μέθοδο ως εξής: «Η μέθοδος συνίσταται στην τοποθέτηση στον φάρυγγα διαμέσου των ρωθώνων ερμητικά προσαρμοζόμενων ελαστικών σωλήνων. Κατόπιν πωματίζεται με σπιραγμό γάζας ο φάρυγγας, αφού η γλώσσα τραβηχθεί προς τα έξω. Με εξαίρεση τις εγχειρήσεις που απαιτούν την αφαίρεση ολόκληρης της βάσης της γλώσσας, με τον τρόπο αυτό επιτυγχάνεται και πλήρης έλεγχος της εισρόφησης». Ο Crile δηλαδή εισήγαγε

erative aspiration and pneumonia was limited or fully prevented. Anesthesia was administered through nasal catheters. Crile described the following for the system of two nasal catheters: "Incidentally, this differentiates the surgeon from the anesthesiologist, allowing each one to do his work, without bothering each other. The mucus that could be otherwise concentrated in the pharynx is immediately absorbed by the gauze. The prevention of vomiting is assured by the control of anesthesia. The many other characteristics of the prevention of infection won't be included here."

Today, in case of neck dissection we should take into account whether it is performed separately (there is no communication between oral cavity and neck during surgery) (discontinuous) or in continuity with concur-

2 ευρείς ελαστικούς καθετήρες διαρινικά, και κατόπιν πωμάτιζε τον φάρυγγα γύρω από τους ελαστικούς αυτούς καθετήρες. Με την τεχνική αυτή ελαχιστοποιούσε την πιθανότητα εισρόφησης αίματος και σάλιου στους πνεύμονες. Ο πωματισμός συμπιέζε επίσης τις γλωσσικές αρτηρίες, και έτσι περιορίζε την διεγχειρητική αιμορραγία, όταν επενέβαινε στην γλώσσα. Με αυτό τον τρόπο, η επικίνδυνη και συχνή επιπλοκή της μετεγχειρητικής εισρόφησης και πνευμονίας περιοριζόταν ή αποτρεπόταν πλήρως. Η αναισθησία χορηγούνταν διαμέσου των ρινικών καθετήρων. Ο Crile περιέγραψε για το σύστημα των δύο ρινικών καθετήρων τα παρακάτω: «Συμπτωματικά, αυτό διαχωρίζει τον χειρουργό από τον αναισθησιολόγο, επιτρέποντας στον καθένα να κάνει την δουλειά του, χωρίς να ενοχλεί τον άλλον. Η βλέννα που διαφορετικά θα μπορούσε να συγκεντρωθεί στον φάρυγγα απορροφάται αμέσως από τη γάζα. Η πρόληψη του εμέτου διασφαλίζεται από τον έλεγχο της αναισθησίας. Τα πολλά άλλα χαρακτηριστικά της πρόληψης της λοίμωξης δεν θα συμπεριληφθούν εδώ». Σήμερα, σε περίπτωση τραχηλικής λεμφαδενεκτομής θα πρέπει να λαμβάνεται υπόψιν, εάν αυτή πραγματοποιείται ξεχωριστά (δεν υπάρχει επικοινωνία στοματικής κοιλότητας και τραχήλου διεγχειρητικά) (discontinuous) ή σε συνέχεια ιστών (in continuity) με ταυτόχρονη εκτομή του πρωτοπαθούς όγκου, οπότε και υπάρχει πιθανότητα επιμόλυνσης του τραχήλου από την στοματική χλωρίδα. Ως ανεξάρτητη επέμβαση η τραχηλική λεμφαδενεκτομή θεωρείται «καθαρή» επέμβαση, και γι' αυτό ο κίνδυνος λοίμωξης του μετεγχειρητικού τραύματος είναι πολύ χαμηλός. Σε μία αναδρομική μελέτη 192 ασθενών, με «καθαρές» τραχηλικές λεμφαδενεκτομές (δηλαδή δεν υπήρχε επικοινωνία με την στοματική κοιλότητα) οι οποίες διενεργήθηκαν υπό άσηπτες συνθήκες, μόνο 10% των ασθενών που δεν έλαβε καθόλου αντιβίωση (στην εποχή του Crile δεν υπήρχε καν η δυνατότητα αυτή!), εμφάνισε λοίμωξη μετεγχειρητικά (Carrau και συν. 1991).

ΕΚΤΟΜΗ ΤΩΝ ΤΡΑΧΗΛΙΚΩΝ ΦΛΕΒΩΝ

Ο Crile αντιλήφθηκε τον κίνδυνο της ταυτόχρονης αμφίπλευρης τραχηλικής λεμφαδενεκτομής με εκτομή και των δύο έσω σφαγιτίδων φλεβών, αν και δεν επεκτάθηκε ειδικά στο ζήτημα του εγκεφαλικού οιδήματος. Τόνισε ότι μετά την εκτομή τόσο της έξω όσο και της έσω σφαγιτίδας φλέβας, της μιας πλευράς του τραχήλου, αναπτύσσεται επαρκής παράπλευρη φλεβική κυκλοφορία, η οποία επιτρέπει την τραχηλική λεμφαδενεκτομή της αντίπλευρης πλευράς χωρίς δυσμενείς συνέπειες, όταν η τελευταία πραγματοποιείται σε δεύτερο χρόνο. Ο Crile περιέγραψε μία περίπτωση στην οποία η σε μία εγχειρητική συνεδρία εκτομή και των δύο έσω σφαγιτίδων φλεβών, χωρίς όμως εκτομή των έξω σφαγιτίδων φλεβών, δεν εμφάνισε μετεγχειρητικές επιπλοκές. Ο

rent excision of the primary tumor, so there is a possibility of neck infection from the oral flora. As an independent surgical procedure, neck dissection is considered a "clean" surgery, so the infection risk of the postoperative trauma is very low. In a retrospective study of 192 patients, with "clean" neck dissections (meaning there was no communication with the oral cavity) that were performed under aseptic conditions, only 10% of the patients who didn't receive antibiotics (in Crile's era this was not possible!), presented with an infection postoperatively (Carrau et al. 1991).

EXCISION OF NECK VEINS

Crile realized the risk of concurrent bilateral neck dissection with excision of both internal jugular veins, even though he didn't elaborate especially in the topic of cerebral swelling. He emphasized that after the excision of both the internal and the external jugular veins, unilaterally, sufficient side venous circulation is developed, that allows the neck dissection of the other side without negative consequences, when the latter is performed secondarily. Crile described a case of the excision of both internal jugular veins in one surgery, without, however, the excision of the external jugular veins, that didn't lead to postoperative complications. He also emphasized that the function of the internal jugular vein of the same side and the sternocleidomastoid muscle were not very significant, so their preservation was not mandatory, if they were suspect for cancerous infiltration based on their presentation during surgery, even if the preoperative plan included a more conservative surgery.

CRILE'S RADICAL NECK DISSECTION

Both Crile's papers (1905, 1906) describe in a similar way the complex excision of the tongue, the floor of the mouth, the mandible and the neck in a patient with primary tumor in the floor of the mouth. "In this case, (e.g. due to a floor of the mouth carcinoma and palpable neck lymph nodes) one is obliged to take a double risk initially, due to the difficulty of the surgery. Considering that all the preoperative preparations were performed, the patient is administered 1/4 morphine and 1/1000 atropine, half an hour before the initiation of anesthesia. After the completion of anesthesia cocaine is placed in the pharynx for prevention of the vomiting reflex. Two rubber tubes firmly adjustable to the nostrils, with extra small openings in their upper end in the pharynx, are pushed until the level of the epiglottis, the tongue is pulled outside of the mouth and a piece of gauze is placed for packing, firmly in the pharynx, that it seals completely. The main consideration in packing is to prevent the compression of the rubber catheters. The patency of the nasal catheters should be verified. However,

ίδιος επίσης τόνισε ότι η λειτουργία της ομόπλευρης έσω σφαγίτιδας φλέβας και του στερνοκλειδομαστοειδούς μυός δεν ήταν τόσο σημαντικές, ώστε να επιβάλλεται η διατήρησή τους, εάν ήταν ύποπτες καρκινικής διήθησης βάσει της διεγχειρητικής τους εικόνας, ακόμα και αν το προεγχειρητικό πλάνο περιελάμβανε μία πιο συντηρητική επέμβαση.

Η ΚΑΤΑ CRILE ΡΙΖΙΚΗ ΤΡΑΧΗΛΙΚΗ ΛΕΜΦΑΔΕΝΕΚΤΟΜΗ

Και οι δύο εργασίες του Crile (1905, 1906) περιγράφουν παρόμοια την σύνθετη εκτομή της γλώσσας, του εδάφους του στόματος, της κάτω γνάθου και του τραχήλου σε έναν ασθενή με πρωτογενές καρκίνωμα του εδάφους του στόματος. «Σε αυτή την περίπτωση, (παραδείγματος χάριν σε ένα καρκίνωμα του εδάφους του στόματος και ψηλαφητούς τραχηλικούς λεμφαδένες) αναγκάζεται κανείς να πάρει διπλό ρίσκο εξαρχής, λόγω της δυσκολίας της επέμβασης. Θεωρώντας ότι πραγματοποιήθηκαν όλες οι προεγχειρητικές προετοιμασίες, χορηγείται στο ασθενή 1/4 μορφίνης και 1/1000 ατροπίνης, μισή ώρα πριν την έναρξη της αναισθησίας. Μετά την ολοκλήρωση της αναισθησίας τοποθετείται κοκαΐνη στον φάρυγγα για την κατάργηση των αντανακλαστικών εμέτου. Δύο ελαστικοί σωλήνες ερμητικά προσαρμοζόμενοι στους ρώθωνες, έχοντας επιπλέον μικρές οπές στο άνω άκρο τους στο φάρυγγα, ωθούνται μέχρι το επίπεδο της επιγλωττίδας, η γλώσσα έλκεται έξω από το στόμα, και τοποθετείται ένα κομμάτι γάζας για πωματισμό, ερμητικά στον φάρυγγα, τον οποίο αποφράσσει πλήρως. Κύριο μέλημα κατά τον πωματισμό είναι η αποφυγή της συμπίεσης των ελαστικών καθετήρων. Η βατότητα των ρινικών καθετήρων πρέπει να επαληθεύεται. Μετά από αυτό όμως, ένας άλλος σωλήνας τύπου T συνδέεται με μία συσκευή (που προστάτευε την αναπνοή από καπνό κτλ) και ο αναισθησιολόγος παίρνει θέση σε απόσταση τουλάχιστον ενός βήματος από το πεδίο, επιτρέποντας στον χειρουργό να έχει τον πλήρη έλεγχο του εγχειρητικού πεδίου και να τοποθετεί τον ασθενή του σε οποιαδήποτε θέση αυτός επιθυμεί, ενώ παράλληλα εξασφαλίζει τη συνεχή χορήγηση αναισθησίας και την αποτροπή εισρόφησης αίματος στην αεροφόρο οδό». Στον ασθενή τοποθετούνταν η ελαστική στολή πίεσης και χορηγούνταν η αναισθησία μέσω των ρινικών καθετήρων, όπως ο ίδιος ο Crile περιέγραψε παραπάνω. Ο ασθενής, έπειτα, τοποθετούνταν σε ημικαθιστική θέση και μία κάθετη τομή γινόταν πάνω από την κλείδα, ενώ στη συνέχεια αποκαλυπτόταν η καρωτίδα αρτηρία με έλξη του στερνοκλειδομαστοειδούς μυός (εικ. 11, 12). Προσωρινά, συλλαμβάνονταν με αγγειολαβίδα η καρωτίδα αρτηρία, και μετά η τομή επεκτείνονταν προς τα άνω διχοτομούμενη με μία υπογνάθια τομή, έτσι ώστε να σχηματίζεται το γράμμα T (εικ. 13). Στην συνέχεια, αναπτύσσονταν

after that, another type T tube is connected to a device (that protected respiration from gas etc.) and the anesthesiologist takes place at least one step away from the operative field, allowing the surgeon to have full control of the operative field and to place the patient in any position he wants, while simultaneously assures the continuous administration of anesthesia and the prevention of blood aspiration in the airway." The rubber uniform was placed on the patient and anesthesia was administered through the nasal catheters, as Crile described above. Then, the patient was placed in anti-Trendelenburg position and a vertical incision was performed over the clavicle, while the carotid artery was exposed by pulling the sternocleidomastoid muscle (figures 11, 12). The carotid artery was temporarily captured with artery forceps and then the incision was extended upwards bisected by a submandibular incision, in order to form the letter T (figure 13). After that, dermal flaps were raised by raising the skin in the whole area of the operative field and the sternocleidomastoid, internal and external jugular veins, as well as the fascia were separated from the base of the neck. The preparation was performed from the bottom up, in one deeper level of the neck, deeper than the lymph nodes (figures 14, 15). "Working initially laterally of the neck, then posteriorly and going upwards with the whole fascia, the muscles, the veins, the fat and the connective tissue, until we reach to the floor of the mouth" (Crile 1906). Then, the mandible was severed with a cable saw, in a safe distance from each side of the tumor." The floor of the mouth and the excision margins of the tongue are performed similarly from a safe distance, completing en bloc dissection" (Crile 1906). After the ligation of the bleeding vessels the floor of the mouth was sutured with the tongue stump with button-hole sutures (probably meaning mattress type sutures in modern terminology) to achieve hemostasis. After this phase the hemostatic forceps loosened and the hemorrhage from vessels that hadn't been ligated was controlled with hemostatic forceps and ligation (figure 15).

It would have been impossible for any surgeon who was not accustomed with surgery and anatomy of the neck to perform Crile's surgical procedure based on the description that he gave at the time. There is no generalized step by step description of a typical radical neck dissection. The aforementioned description of the surgical technique doesn't involve a detailed description of the management of the upper neck. Crile's illustrations show a type T incision with dermal flaps raised to expose and prepare levels I through V (figures 6-15). The content of the posterior neck triangle seems to be separated from the pre-vertebral fascia, exposing muscles from the floor of the posterior neck triangle, but the extension of the excision until the front lip of trapezoid muscle is not obvious, as occurs in the current practice.

δερματικοί κρημνοί με υπέγερση του δέρματος σε ολόκληρη την περιοχή του χειρουργικού πεδίου, και ο στερνοκλειδομαστοειδής, οι έσω και έξω σφαγίτιδες φλέβες, καθώς και η περιτονία διαχωρίζονταν στην βάση του τραχήλου. Η παρασκευή διενεργούνταν από κάτω προς τα πάνω, σε ένα εν τω βάθει επίπεδο του τραχήλου, βαθύτερα από τους λεμφαδένες (εικ. 14,15). «Εργαζόμενος αρχικά στα πλάγια του τραχήλου, στην συνέχεια οπίσθια και ακολούθως με πορεία προς τα πάνω με όλη την περιτονία, τους μυς, τις φλέβες, το λίπος και τον συνδετικό ιστό, μέχρι να φτάσουμε στο έδαφος του στόματος» (Crile 1906). Η κάτω γνάθος στην συνέχεια διατέμνονταν με συρματοπρίονο, σε ασφαλή απόσταση από την κάθε πλευρά του όγκου. «Το έδαφος του στόματος και τα όρια εκτομής της γλώσσας διατέμνονται παρόμοια σε ασφαλή απόσταση, ολοκληρώνοντας την μονοπαγή εκτομή» (Crile 1906). Μετά την απολίνωση των αιμορραγούντων αγγείων το έδαφος του στόματος συγκλείνονταν με το κολόβωμα της γλώσσας, με την τοποθέτηση button-hole ραμμάτων (μάλλον εννοεί τύπου mattress ραφές στην σύγχρονη ορολογία) για επίτευξη αιμόστασης. Μετά από αυτή την φάση η αιμοστατική λαβίδα χαλάρωνε και η αιμορραγία από τα αγγεία που δεν είχαν απολινωθεί ελέγχονταν με αιμοστατικές λαβίδες και απολίνωση (εικ. 15).

Θα ήταν αδύνατον για οποιονδήποτε χειρουργό που δεν είναι εξοικωμένος με την χειρουργική και την ανατομία του τραχήλου να διενεργήσει την επέμβαση του Crile βασιζόμενος στην περιγραφή που έδωσε την εποχή εκείνη. Δεν υπάρχει γενικευμένη βήμα προς βήμα περιγραφή μιας τυπικής ριζικής τραχηλικής λεμφαδεκτομής. Η προαναφερθείσα περιγραφή της χειρουργικής τεχνικής δεν περιλαμβάνει λεπτομερή περιγραφή της διαχείρισης του άνω τραχήλου. Οι εικονογραφήσεις του Crile δείχνουν μία τομή τύπου T με δερματικούς κρημνούς που υπεγείρονται για να αποκαλυφθούν και να παρασκευασθούν τα επίπεδα Ι έως V (εικ. 6-15). Το περιεχόμενο του οπίσθιου τραχηλικού τριγώνου φαίνεται να διαχωρίζεται από την προσπονδυλική περιτονία, αποκαλύπτοντας μύες από το έδαφος του οπίσθιου τραχηλικού τριγώνου, αλλά δεν φαίνεται η επέκταση της εκτομής μέχρι το πρόσθιο χείλος του τραπεζοειδούς μυός, όπως συμβαίνει στην σύγχρονη πρακτική. Τόσο ο στερνοκλειδομαστοειδής όσο και ο ωμοϋοειδής διατέμνονταν προς τα άνω και προς τα κάτω και περιλαμβάνονταν στο παρασκεύασμα εκτομής. Το παρασκεύασμα υπεγείροταν από τα κάτω προς τα άνω. Το υπογλώσσιο νεύρο, ο διγαστρος μυς και ο υπογνάθιος αδένας συναφαιρούνταν, καθώς και μοίρα της κάτω γνάθου. Το πνευμονογαστρικό νεύρο παρέμενε άθικτο, όπως και η καρωτίδα με τους κλάδους της. Ο Crile δεν έκανε αναφορά στο φρενικό νεύρο ή στο βραχιόνιο πλέγμα. Επίσης, δεν αναφέρει την ανάγκη διατομής των ριζών του αυχενικού πλέγματος, με διατήρηση του φρενικού νεύρου, ώστε να απελευθερωθεί το παρασκεύασμα.

Both sternocleidomastoid and omohyoid muscles are severed from the top down and were included in the excision preparation. The preparation was raised from the bottom up. The sublingual nerve, digastric muscle and submandibular gland were also removed, as well as part of the mandible. Vagus nerve remained intact together with carotid artery and its branches. Crile didn't mention the phrenic nerve or the brachial plexus. Furthermore, he doesn't mention the need to sever the roots of the cervical plexus, retaining phrenic nerve, in order to release the preparation. It is hard to determine exactly how he really restored postoperative intraoral defects. Most modern surgeons would use regional flaps or free flaps with microvascular anastomosis to restore postoperative defects. If the surgical convergence was performed only with regional tissues, the most possible scenario would be suturing of the lips of the preparation of the tongue with the cheek.

CRILE'S RESULTS

Crile's papers record an Odyssey of experiences in the treatment of head and neck cancer in the end of the 19th and the beginning of the 20th century. Until almost 1898 to 1899 no systematic approach was performed in the neck. An analysis of the failures of the first surgical cases that preceded revealed a series of fatal mistakes, including the removal of only certain neck lymph nodes, insufficient access of the surgical field of the neck, minimum consideration for bleeding control, poor management of cancerous tissues and removing of only obviously infiltrated tissues. Such mistakes caused an early and rapid relapse. Crile concluded that "...insufficient surgical procedure spreads cancer and triggers the tumor, reduces survival rate and exhausts the patient's courage" and then that "the logical surgical procedure of choice is en bloc dissection of regional lymph nodes, as well as the primary tumor, exactly with the same rationale of Halsted's mastectomy." Even though Crile believed that such surgeries should be performed regardless of the presence of palpable lymph nodes on the neck, practically he performed en bloc dissections on the neck only in the case of palpable (clinically positive) lymph nodes. Further analysis revealed that there is no benefit in the attempts to remove reoccurring non-encapsulated tumors, infiltrating deeper neck levels. On the contrary, if the tumor was encapsulated, the hope for cure was alive.

Thus, starting between 1898 and 1899, Crile reviewed his own indications and the approach in the therapeutic management of the neck and applied his reviews in his last 63 patients (Crile 1906). Small primary tumors without palpable lymph nodes, as well as tumors, such as squamous cell carcinomas of the skin or the lips, that were considered unlikely to metastasize on the neck,

Είναι δύσκολο να προσδιορίσουμε επακριβώς πώς πραγματικά αποκαθιστούσε τα μετεγχειρητικά ενδοστοματικά ελλείμματα. Οι πιο σύγχρονοι χειρουργοί θα χρησιμοποιούσαν περιοχικούς κρημνούς ή ελεύθερους μικροαγγειοαναστωμένους κρημνούς για την αποκατάσταση των μετεγχειρητικών ελλειμμάτων. Εάν η σύγκλειση διενεργούταν μόνο με τοπικούς ιστούς, το πιο πιθανό σενάριο θα ήταν η συρραφή των χειλέων του κολοβώματος της γλώσσας με την παρειά.

ΤΑ ΑΠΟΤΕΛΕΣΜΑΤΑ ΤΟΥ CRILE

Οι εργασίες του Crile καταγράφουν μία Οδύσσεια εμπειριών της θεραπείας του καρκίνου της κεφαλής και του τραχήλου, στα τέλη του 19ου έως και τις αρχές του 20ου αιώνα. Μέχρι περίπου το 1898 με 1899 δεν διενεργούνταν συστηματική προσπέλαση στον τράχηλο. Μία ανάλυση των αποτυχιών των πρώιμων περιπτώσεων χειρουργών που προηγήθηκαν αποκάλυψε σειρά μοιραίων λαθών, που περιελάμβαναν την απομάκρυνση ορισμένων μόνο τραχηλικών λεμφαδένων, ανεπαρκή προσπέλαση του εγχειρητικού πεδίου του τραχήλου, ελάχιστη προσοχή για τον έλεγχο της αιμορραγίας, ελλειμματικούς χειρισμούς στην διαχείριση των καρκινικών ιστών, και αφαίρεση μόνο εμφανώς διηθημένων ιστών. Τέτοια λάθη προκαλούσαν πρώιμη και ραγδαία υποτροπή. Ο Crile συμπέρανε ότι «...ανεπαρκής επέμβαση διασπείρει την καρκινική νόσο και διεγείρει τον ίδιο τον όγκο, μειώνει το προσδόκιμο ζωής και εξαντλεί το κουράγιο του ασθενούς» και κατόπιν ότι «η λογική επέμβαση εκλογής είναι η μονοπαγής εκτομή των επιχώριων λεμφαδένων, καθώς επίσης και της πρωτοπαθούς εστίας, ακριβώς με το ίδιο σκεπτικό της μαστεκτομής κατά Halsted για καρκίνο του μαστού». Αν και ο Crile πίστευε ότι τέτοιου είδους επεμβάσεις θα έπρεπε να διενεργούνται ανεξάρτητα από το εάν υπάρχουν ψηλαφητοί λεμφαδένες στον τράχηλο, πρακτικά ο ίδιος διενεργούσε μονοπαγείς εκτομές στον τράχηλο, μόνο σε περιπτώσεις με ψηλαφητούς (κλινικά θετικούς) λεμφαδένες. Περαιτέρω ανάλυση αποκάλυψε ότι δεν υπάρχει όφελος στις προσπάθειες εκτομής όγκων που υποτροπιάζουν με εξωκαψική διασπορά, διηθώντας το εν τω βάθει τραχηλικό επίπεδο. Αντίθετα, εάν δεν υπήρχε τέτοια ογκώδης εξωκαψική διασπορά παρέμενε ζωντανή η ελπίδα θεραπείας.

Συνεπώς, αρχίζοντας μεταξύ του 1898 και 1899 ο Crile αναθεώρησε τις ιδιες του τις ενδείξεις και τον τρόπο προσπέλασης στην θεραπευτική διαχείριση του τραχήλου και εφάρμοσε αυτές τις αναθεωρήσεις του στους τελευταίους 63 ασθενείς του (Crile 1906). Μικροί πρωτοπαθείς καρκίνοι χωρίς ψηλαφητή λεμφαδενοπάθεια, καθώς επίσης και όγκοι, όπως ακανθοκυτταρικά καρκινώματα του δέρματος ή των χειλέων, που θεωρούνταν απίθανο να έχουν δώσει μετάσταση στον τράχηλο, θεραπεύονταν με περιορισμένης έκτασης εκτομή των

were treated with limited dissection of regional lymph nodes and especially the levels that presented the greatest risk of latent metastasis, without removing the sternocleidomastoid muscle and inner jugular vein and sometimes even not the submandibular gland (figure 10). Tumors with palpable lymph nodes were treated with radical en bloc dissection of the whole neck content of the affected side, either in continuity, with excision of the primary tumor in the same surgical procedure, or in separate surgeries, sometimes to avoid the infection risk and other times as a result of a secondary metastasis.

In the 1906 article Crile described the results from 132 patients that he operated on. From the 96 patients who were not subjected to radical neck dissection 48 were closely monitored and 9 (19%) of them survived for 3 years. From the 36 patients who were subjected to radical en bloc dissections 10 were alive during the writing of his paper in 1906, however, without completing a 3 year follow up. 3 years of follow up was available for 12 patients with 9 (75%) of them being alive.

THE IMPORTANCE OF CRILE'S WORK AND WHAT FOLLOWED

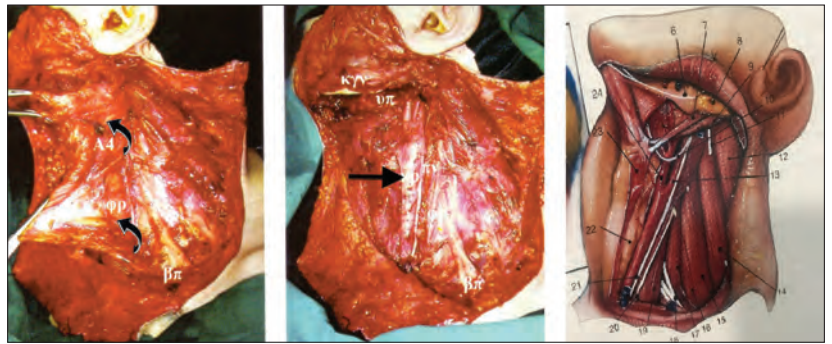
Crile's concept about the behavior of head and neck cancer, and the surgical principles that he established, opened the pathways for the management of the disease. However, almost until the middle of the 20th century the basic principles and techniques that Crile established hadn't been adopted as a therapeutic method of choice from the surgeons. Many factors contributed to this delay. The primary reason was the difficulty to perform the procedure, as well as the risk from the surgical procedure. In the paper of 1905 Crile reports 5 deaths among 51 patients, that occurred in the immediate postoperative period, including patients who were not subjected to radical neck dissection (more conservative surgical procedures). This mortality (10%), even with the detailed preoperative control performed by Crile, demonstrates the great challenges faced by the surgeon performing this kind of surgeries at the time, even if he was the best. Few general surgeons in big hospitals had the knowledge, the experience and the technical means to perform these surgeries. For this reason they had to wait, (and they waited!) for the application of blood transfusion, antibiotics and endotracheal anesthesia. The second reason for the delay of the establishment of the surgical procedure was the introduction of radiotherapy in the beginning of the 20th century. The ascertainment that ionizing radiation could treat several types of head and neck cancer, without the disability risk, due to the surgical treatment, led to an era, mainly between the two world wars, when many big hospitals gave great attention to the implementation of radiotherapy in

επιχώριων τραχηλικών λεμφαδένων, και ειδικά των επιπέδων που εμφάνιζαν τον μεγαλύτερο κίνδυνο ύπαρξης λανθάνουσας μετάστασης, χωρίς εκτομή του στεφανοκλειδομαστοειδούς μυός και της έσω σφαγίτιδας φλέβας ή συχνά ούτε και εκτομής του υπογνάθιου αδένου (εικ. 10). Όγκοι με ψηλαφητούς λεμφαδένες αντιμετωπιζόνταν με ριζική μονοπαγή λεμφαδεκτομή (radical en bloc dissection) ολόκληρου του σύστοιχου τραχηλικού περιεχομένου, είτε κατά συνέχεια ιστών, με εκτομή του πρωτοπαθούς όγκου στην ίδια χειρουργική συνεδρία, είτε σε διαφορετικούς χρόνους, άλλοτε για αποφυγή του κινδύνου λοίμωξης, και άλλοτε ως συνέπεια της εμφάνισης μετάχρονης μετάστασης.

Στο άρθρο του 1906 ο Crile περιέγραψε τα αποτελέσματα από 132 ασθενείς που χειρουργήσε. Από τους 96 ασθενείς οι οποίοι δεν υποβλήθηκαν σε ριζική τραχηλική λεμφαδεκτομή οι 48 παρακολούθηθηκαν στενά, και 9 (19%) από αυτούς επέζησαν για 3 χρόνια. Από τους 36 ασθενείς που υποβλήθηκαν σε ριζικές μονοπαγείς λεμφαδεκτομές (radical en bloc dissections) 10 ήταν εν ζωή κατά την συγγραφή της εργασίας του 1906, χωρίς όμως να έχει συμπληρωθεί 3ετία παρακολούθησης. Περίοδος παρακολούθησης 3 και πλέον ετών ήταν διαθέσιμη για 12 ασθενείς, με 9 (75%) από αυτούς να είναι εν ζωή.

Η ΣΗΜΑΣΙΑ ΤΟΥ ΕΡΓΟΥ ΤΟΥ CRILE ΚΑΙ ΟΣΑ ΑΚΟΛΟΥΘΗΣΑΝ

Η αντίληψη του Crile για την συμπεριφορά του καρκίνου κεφαλής και τραχήλου, και οι αρχές χειρουργικής του αντιμετώπισης που ο ίδιος καθιέρωσε, άνοιξε την «πύλη» της θεραπευτικής του αντιμετώπισης. Ωστόσο, σχεδόν μέχρι τα μέσα του 20ου αιώνα οι βασικές αρχές και τεχνικές που ο Crile έθεσε δεν είχαν υιοθετηθεί ως θεραπευτική μέθοδος εκλογής από τους χειρουργούς. Πολλοί παράγοντες συνέβαλαν σε αυτή την καθυστέρηση. Ο βασικότερος λόγος ήταν η δυσκολία τέλεσης της επέμβασης, καθώς και ο κίνδυνος από την ίδια την χειρουργική επέμβαση. Στην εργασία του 1905 ο Crile αναφέρει 5 θανάτους μεταξύ 51 ασθενών, που συνέβησαν στην άμεση μεταχειρητική περίοδο, σε ασθενείς στους οποίους περιλαμβάνονταν και κάποιοι που δεν υποβλήθηκαν σε ριζική τραχηλική λεμφαδεκτομή (συντηρητικότερες επεμβάσεις). Η θνησιμότητα αυτή (ποσοστό 10%), ακόμη και με τον λεπτομερή προεγχειρητικό έλεγχο που έκανε ο Crile, δείχνει τα μεγάλα προβλήματα που αντιμετώπιζε ο χειρουργός που διενεργούσε τέτοιου είδους επεμβάσεις εκείνη την εποχή, ακόμη και εάν ήταν ο καλύτερος. Ελάχιστοι γενικοί χειρουργοί στα μεγάλα νοσοκομεία είχαν την γνώση, την εμπειρία και τα τεχνικά μέσα να διενεργήσουν τέτοιες επεμβάσεις. Για το λόγο αυτό έπρεπε να αναμένουν, (και ανέμεναν!) την εφαρμογή της μετάγγισης αίματος, των αντιβιοτικών και της ενδοτραχειακής αναισθησίας. Ο δεύτερος λόγος



Εικ. 24: Μία από τις περιπτώσεις μας στην οποία ακολουθήθηκαν τα στάδια της κατά McGregor τεχνικής. Α) Διακρίνεται η εκ των οπίσθεν προς τα εμπρός παρασκευή των ιστών (βέλη).

Β) Μετά την ολοκλήρωση της επέμβασης διακρίνονται οι ανατομικές δομές του τραχήλου με ικανοποιητική σαφήνεια. Γ) Σχηματική παράσταση των ανατομικών δομών που εναπομένουν για να γίνει σύγκριση με την προηγούμενη Β. εικόνα.

Fig. 24: One of our cases in which the stages of McGregor's technique were followed. A) The preparation of the tissues from posterior to anterior direction is shown (arrows). B) After the completion of the operation the anatomical structures of the neck are being shown with sufficient clarity. C) Schematic diagram of the remaining anatomical structures for a comparison with the previous figure (B).

head and neck tumors. These concepts were prevalent until about the middle of the 20th century when the limitation of radiotherapy started to become obvious and necessary, due to the serious side effects and its therapeutic failure as monotherapy (figure 20). Nevertheless, the establishment of surgical treatment as a treatment of choice again coincided with the possibility of blood transfusion, antibiotic administration and safe anesthesia, measures that prevented or limited significantly intraoperative and postoperative complications, such as infections, bleeding and postoperative fistulas. In 1951 Martin (Martin et al. 1951) made a monumental publication titled Neck Dissection. This extended paper included analysis of 1450 cases of neck dissection performed from 1928 until 1950, even though his statistics came from 665 surgical procedures performed in 599 patients. This paper of Martin started a new era in the treatment of head and neck cancer, which is widely popular between surgeons globally. Martin (as well as his students-surgeons) insisted with strict adherence to en bloc neck dissection of all lymph node levels from I to V in the neck, basically in the same way described in 1905-1906 by Crile. Martin assumed that more conservative operations even in clinically negative neck, except from radical neck dissection, had no indication. However, by the end of the 20th century significant adjustments took place against this firm concept about radical neck dissection in every case. So, many current surgeons suggested more conservative surgical techniques, when the neck is clinically negative, that are limited only to neck dissection from the areas where lymphatic vessels of intraoral cancerous spots originally flow, something that even Crile suggested in his era for N0 neck (Lazarides et al. 1999). Finally, the modification regarding the prepara-

για την καθυστέρηση της καθιέρωσης της χειρουργικής επέμβασης ήταν η έλευση της ακτινοθεραπείας στις αρχές του 20ου αιώνα. Η διαπίστωση ότι η ιονίζουσα ακτινοβολία θα μπορούσε να αντιμετωπίσει διάφορες μορφές καρκίνου κεφαλής και τραχήλου, χωρίς τον κίνδυνο «αναπηρίας», που συνεπαγόταν η χειρουργική αντιμετώπιση, οδήγησε σε μία εποχή, κυρίως μεταξύ των δύο Παγκοσμίων Πολέμων, όπου πολλά μεγάλα νοσοκομεία έδωσαν μεγάλη σημασία στην εφαρμογή ακτινοθεραπείας σε όγκους κεφαλής και τραχήλου. Οι απόψεις αυτές κυριαρχούσαν μέχρι τα μέσα περίπου του 20ου αιώνα οπότε και άρχισε να γίνεται εμφανής και αναγκαίος ο περιορισμός της ακτινοθεραπείας, εξαιτίας των σοβαρών παρενεργειών της και της θεραπευτικής της αποτυχίας ως μονοθεραπεία (εικ. 20). Αυτή βέβαια η καθιέρωση ως θεραπείας εκλογής εκ νέου της χειρουργικής θεραπείας, συνέπεσε με την δυνατότητα μετάγγισης αίματος, χορήγησης αντιβιοτικών και χορήγησης ασφαλούς αναισθησίας, μέτρα τα οποία προλάμβαναν ή περιόριζαν σημαντικά διεγχειρητικές και μετεγχειρητικές επιπλοκές, όπως λοιμώξεις, αιμορραγία και μετεγχειρητικά συρίγγια. Το 1951 ο Martin (Martin και συν. 1951) έκανε μνημείωδη δημοσίευση με τίτλο Neck Dissection. Η εκτεταμένη αυτή εργασία περιελάμβανε ανάλυση 1450 περιπτώσεων τραχηλικής λεμφαδενεκτομής που διενεργήθηκαν από το 1928 ως το 1950, αν και η στατιστική του προέρχεται από 665 χειρουργικές επεμβάσεις που διενεργήθηκαν σε 599 ασθενείς. Η εργασία αυτή του Martin άνοιξε νέα εποχή στην θεραπεία κεφαλής και τραχήλου, που είναι σήμερα ευρέως διαδεδομένη μεταξύ των χειρουργών παγκοσμίως. Ο Martin (καθώς και οι μαθητές-χειρουργοί) επέμεινε με αυστηρή προσκόλληση στην μονοπαγή τραχηλική λεμφαδενεκτομή «en bloc neck dissection» όλων των λεμφαδενικών επιπέδων από I έως V του τραχήλου, με τρόπο βασικά όμοιο με αυτόν που ήδη το 1905-1906 περιέγραψε ο Crile. Ο Martin θεωρούσε ότι συντηρητικότερες επεμβάσεις ακόμα και στον αρνητικό τράχηλο, πέραν της ριζικής τραχηλικής λεμφαδενεκτομής, δεν έχουν καμία ένδειξη. Προς το τέλος όμως του 20ου αιώνα έγιναν σημαντικές τροποποιήσεις ενάντια σε αυτή την απόλυτη θέση περί ριζικής λεμφαδενεκτομής σε όλες τις περιπτώσεις. Έτσι, πολλοί σύγχρονοι χειρουργοί πρότειναν πιο συντηρητικές εγχειρητικές τεχνικές, όταν ο τράχηλος είναι κλινικά αρνητικός, που να περιορίζονται στην εκτομή λεμφαδένων μόνο από τις περιοχές που αρχικά εκβάλλουν τα λεμφαγγεία ενδοστοματικών καρκινικών θέσεων, κάτι που και ο ίδιος ο Crile στην εποχή του πρότεινε για N0 τράχηλο (Λαζαρίδης και συν. 1999). Αξιοσημείωτο τέλος είναι και η τροποποίηση σε ότι αφορά την παρασκευή των προς εκτομή τραχηλικών ιστών την οποία πρότεινε ο καθηγητής McGregor το 1986 στο Canniesburn Hospital της Γλασκώβης (προσωπική επικοινωνία Ian McGregor και Francis McGregor). Τα μεγάλα αγγεία του τραχήλου (κοινή καρωτίδα και έσω σφαγίτιδα) (εικ. 21) δεν δίνουν

tion of neck tissues to be dissected is worth mentioning, that was suggested by professor McGregor in 1986 in Canniesburn Hospital of Glasgow (personal communication Ian McGregor and Francis McGregor). The great vessels of the neck (common carotid and internal jugular) (figure 21) don't provide posterior branches for the most part of the posterior neck triangle, thus, the preparation of the neck tissues to be dissected in radical neck dissection is preferable to be performed not from the bottom up (figure 22A), but from the back to the front (figure 22B), facilitating in this way the surgeon to perform neck dissection stress free, with easier preparation of the anatomical structures of the neck. Furthermore, the approach of the upper pole of the jugular (figure 23) that is about to be ligated is performed with greater ease from the surgeon and without worrying about injuring the internal jugular vein. This is due to the fact that it is performed under direct vision since the severing of the sternocleidomastoid muscle precedes, in contrast with the classic approach by Crile and Hayes Martin (McGregor and Howard 1998) (figure 24). So, Crile's concept, that was expressed already from 1905-1906, about the therapeutic management of the neck, both clinically positive and negative, in head and neck cancer, continues to be valid until today.

οπίσθιους κλάδους στην μεγαλύτερη έκταση του οπίσθιου τραχηλικού τριγώνου, επομένως η παρασκευή των προς εκτομή τραχηλικών ιστών στην ριζική τραχηλική λεμφαδενεκτομή είναι προτιμότερο να διενεργείται όχι εκ των κάτω προς τα άνω (εικ. 22Α), αλλά εκ των οπίσθω προς τα εμπρός (εικ. 22Β), διευκολύνοντας με τον τρόπο αυτό τον επεμβαίνοντα να διενεργήσει χωρίς άγχος τον λεμφαδενικό του καθαρισμό, με ευχερέστερη παρασκευή των ανατομικών δομών του τραχήλου. Επίσης, η προσέγγιση του άνω πόλου της σφαγίτιδας (εικ. 23) που πρόκειται να απολινωθεί πραγματοποιείται με με-

γαλύτερη ευκολία από τον χειρουργό και χωρίς άγχος τραυματισμού της έσω σφαγίτιδας. Αυτό οφείλεται στο ότι διενεργείται υπό άμεση ορατότητα αφού έχει προηγηθεί η διατομή του στερνοκλειδομαστοειδούς μυός, σε αντίθεση με την κλασική προσέγγιση κατά Crile και Hayes Martin (McGregor και Howard 1998) (εικ. 24). Έτσι, η άποψη του Crile, που εξέφρασε ήδη από το 1905-1906, για την θεραπευτική αντιμετώπιση του τραχήλου, τόσο κλινικά θετικού όσο και κλινικά αρνητικού τραχήλου, στον καρκίνο κεφαλής και τραχήλου, συνεχίζει να αποδεικνύει την αξία της μέχρι και σήμερα.

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Head and neck cancers in paediatric population including recent advances

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Καρκίνος της κεφαλής και του τραχήλου σε παιδιατρικούς ασθενείς. Νεώτερες εξελίξεις

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Review
Ανασκόπηση

SUMMARY: Addressing health issues in paediatric population poses a major challenge to health care providers due to lack of child's capability in expressing varied range of symptoms through which they undergo which may be of utmost diagnostic significance, thereby delaying early diagnosis. Unfortunately, Cancer is well known to be a common cause for increase in mortality rates in children. To achieve early diagnosis, careful attention to constellation symptoms portrayed by child and/or parents suggestive of malignancy may aid in earlier diagnosis. With no disparity between early and late diagnosed cases, treatment modalities such as radio/chemotherapy and surgeries poses risk of recurrence, short and long term effects due to chemo/ radiation. To overcome all the aforementioned facts, new perspectives like targeted immunotherapy and Proton beam therapy proves beneficial and prevents children from emotional and physical trauma and primarily, from peer pressure. Updating with common head and neck cancers and advances in treatment may facilitate health care professionals in early diagnosis thereby, preventing disease progression. This article briefs about commonly occurring head and neck tumors in paediatrics, latest updates, advancements and an overview of impact of Global pandemic on current oncology practices with special concern on outcomes to be faced post pandemic.

KEY WORDS: Head and neck cancers, Lymphoma, TNM classification, Targeted therapy, Proton beam therapy and Covid-19

ΠΕΡΙΛΗΨΗ: Η αντιμετώπιση θεμάτων υγείας στον παιδιατρικό πληθυσμό αποτελεί σημαντική πρόκληση για τους παρόχους υγειονομικής περίθαλψης λόγω της αδυναμίας των παιδιών να εκφράσουν τα συμπτώματά τους, πολλές υψηλής διαγνωστικής σημασίας, καθυστερώντας έτσι την έγκαιρη διάγνωση. Δυστυχώς, ο καρκίνος είναι γνωστό ότι είναι μια κοινή αιτία για την αύξηση των ποσοστών θνησιμότητας στα παιδιά. Για να επιτευχθεί έγκαιρη διάγνωση, η υψηλή κλινική υποψία για τα συμπτώματα που αναφέρονται από το παιδί και/ή τους γονείς και που υποδηλώνουν κακοήθεια μπορεί να βοηθήσει στην πρόωπη διάγνωση. Χωρίς σημαντική διαφορά μεταξύ των περιπτώσεων πρόωπης και όψιμης διάγνωσης, οι τρόποι θεραπείας όπως η ακτινοθεραπεία, η χημειοθεραπεία και οι χειρουργικές επεμβάσεις ενέχουν κίνδυνο υποτροπής, βραχυπρόθεσμων και μακροπρόθεσμων επιπτώσεων λόγω χημειοθεραπείας/ακτινοβολίας. Για να ξεπεραστούν όλα τα προαναφερθέντα, νέες προοπτικές όπως η στοχευμένη ανοσοθεραπεία και η θεραπεία δέσμης πρωτονίων αποδεικνύονται ευεργετικές και ελαττώνουν το συναισθηματικό και σωματικό τραύμα στα παιδιά, μέρος του οποίου οφείλεται και στους συνομηλίκους/συμμαθητές τους. Η ενημέρωση για τους συχνότερους καρκίνους της κεφαλής στα παιδιά και οι πρόοδοι στη θεραπεία μπορεί να διευκολύνουν τους επαγγελματίες υγείας στην έγκαιρη διάγνωση και θεραπεία, αποτρέποντας έτσι την εξέλιξη της νόσου. Αυτό το άρθρο συνοψίζει τη βιβλιογραφία σχετικά με τους συνήθεις όγκους κεφαλής και τραχήλου στην παιδιατρική και τις τελευταίες εξελίξεις. Επιπλέον γίνεται μια επισκόπηση του αντίκτυπου της παγκόσμιας πανδημίας στις τρέχουσες ογκολογικές πρακτικές με ιδιαίτερη μνεία στα αποτελέσματα που πρέπει να αντιμετωπίσουμε μετά την πανδημία.

ΛΕΞΕΙΣ ΚΛΕΙΔΙΑ: Καρκίνος κεφαλής και τραχήλου, λέμφωμα, ταξινόμηση TNM, Στοχευμένη θεραπεία, θεραπεία δέσμης πρωτονίων, Covid-19

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INTRODUCTION

Child, one of the God's benevolent creation who is not just a miniature but a dynamic organism undergoing constant physical and emotional changes (1). In children, cancer tops the list of mortality rates especially in age group who are less than fourteen years (2). To achieve early diagnosis in paediatric cancers, careful attention to signs or symptoms what child / parents mention, is of utmost important (3). Failure in recognizing constellation of signs and symptoms portrayed by child or parents suggestive of malignancy may cause diagnostic delay, disease progression, intense therapies, secondary malignancies, parental anger and importantly, disappointment with medical provider. Table 1 gives us an overview of common clinical presentations which has been missed out resulting in delay in diagnosis (4). Few factors related to diagnostic delay are as follows: child's age during diagnosis, parents education status, cancer type and presentation of symptoms (5). Though, it is not feasible to follow a diagnostic protocol for each and every complaint, certain clinical presentations require definite evaluation because of risk of malignancy (4). Often, paediatric tumors are confused with non – neoplastic head and neck masses such as congenital malformations, haemangiomas, lymphangiomas, vascular malformations, inflammation and infections, thus further complicating diagnosis (6). However, acquisition of scientific knowledge and update with recent advancements not only make diagnosis easier, but also enables in providing quality care to child, saves time, money and child from emotional trauma (1). Paediatric head and neck cancers commonly occurs in age group between 10 and 19. Of note, Incidence rates were found to increase in girls between age group of 10 and 14 years, whereas in boys, 0 and 9 years is the most commonly affect age group (7). Cancer incidence rates were found to increase, whereas death rates were found to harbour a decline in trends during the past few decades. 5-year relative survival rate improved from 58% to 84% through 2015 for children (8). Lymphomas were the most common malignancy in paediatrics followed by rhabdomyosarcoma and then the nasopharyngeal carcinoma. Of the lymphomas, non-Hodgkin's lymphoma is predominant. Other malignancies like thyroid carcinoma and mucoepidermoid carcinoma were found to occur less frequently (9).

LYMPHOMA:

Neoplasm of the reticuloendothelial system affecting either lymphocytes or histiocytes in varying degrees of differentiation exhibiting varied clinical presentations, being multicentric in nature, diffuse or nodular and regional or generalized (10).

NON-HODGKIN'S LYMPHOMA:

One of the most common lymphoma in males with in-

crease in incidence rate as age progresses. Abdomen is the most commonly affected site. Based on tumor aggressiveness, it is sub-classified into the following grades, i.e., low, high and intermediate (11). Classification of lymphoma aids clinicians not only in diagnosis, better treatment planning and staging but also renders a significant prognostic value. Revised European American Lymphoma (REAL)/ World Health Organization (WHO) Classifies Lymphoma (2001) based on the type of each cell lineage and its specific morphology, in which, B-cell neoplasms were sub-classified into two groups, namely, Precursor B-cell neoplasm and Peripheral B-cell neoplasms. Similarly, T-cell and putative Natural killer-cell neoplasms were sub-divided into Precursor T-cell neoplasm and Peripheral T-cell and NK-cell neoplasms (10). Murphy and Ann arbor staging schema stages lymphoma based on the number of lymph nodes or single extranodal organ or site involved (12). French-American-British/LMB system is specifically designed for classification of B-cell non-hodgkin lymphoma (13).

BURKITT'S LYMPHOMA:

An uncommon, fast growing, aggressive B- cell lymphoma affecting children often involves body parts other than the lymph nodes. It is often curable and comprises of 2 varieties: Sporadic and Endemic. Endemic, as the name suggests, with high incidence in equatorial Africa named endemic Burkitt's lymphoma, whereas sporadic occurs in other regions of the world. Endemic cases are 95% related to Epstein Barr Virus (EBV), highly involves jaw bones, a distinct characteristic that is not found in sporadic. On the contrary, sporadic were not found to be strongly linked with EBV, involves bone marrow rather than jaws. Histopathologically, tumors cells are characterized by the presence of monomorphic cells. Tumor cells are usually medium – sized with well-defined round nuclei and multiple nucleoli. Cytoplasm is basophilic, thereby giving tumor cells, an appearance of small non – cleaved cells scattered around the germinal centers of each of the secondary lymphoid follicles. Ingestion of apoptotic tumor cells by macrophages imparts a pathognomic histologic feature of 'Starry sky pattern' appearance' (1).

DIAGNOSIS: Incisional biopsy of the affected lymph node along with histopathologic analysis were more accurate than Fine Needle Aspiration Biopsy (FNAC). Fresh biopsies were preferred for Immunohistochemistry (IHC) and flow cytometry (11). Radiologic techniques such as Computed Tomography and Magnetic Resonance Imaging studies are commonly used for staging of tumors. Radionucleotide bone scans are usually indicated only in cases wherein a bone involvement or metastasis comes arises a suspicion (13). Advanced techniques, which mainly evolves around the principle of perfusion and spectral imaging Computed Tomography,

Table 1: Common clinical presentations often mis-diagnosed⁴

Persistent presentation	Mis-diagnosed as	Common final diagnosis
Constitutional symptoms	Viral infection	Lymphoma
Respiratory symptoms	Sinusitis, Pneumonia	Lymphoma
Abdominal pain	Constipation	Burkitt's Lymphoma
Enlarged single node	Reactive nodes	Lymphoma, other solid tumors
Cervical adenopathy	Viral illness	Lymphoma

Table 2: French-American-British/LMB staging schema for b-cell non-hodgkin lymphoma

Stratum	Disease manifestation
A	Resected stage I & stage II
B	Multiple extra-abdominal site Non-resected stage I, II, III and IV (< 25% marrow blasts, no CNS involvement)
C	Mature B- cell ALL (>25% blasts in marrow) and /or CNS disease)

Abbreviations: ALL, Acute Lymphoblastic Leukemia; FAB, French-American-British; LMB, Lymphoma Malignancy B-cell I 3

enables clinicians in assessment of properties of tumor by not only just characterizing its size but also serves as a valuable tool in development of precise functional images. With specific consideration to MRI techniques, which works on the ideas of perfusion, elastography, diffusion-weighted and spectroscopy, facilitates investigation of tumor, metabolism and its functions (14). ^{99m}Tc bone scintigraphy or PET scans which uses 18F-fluoro-deoxyglucose as a marker is useful in cases of skeletal metastases, staging and response (15).

TREATMENT: Rituximab, a specific antibody which targets antigen CD20 and R-CHOP regimen which is inclusive of Rituximab, Cyclophosphamide, Doxorubicin, Vincristine and Prednisone forms the frontliner in treatment. EPOCH-R which include drugs namely, Cyclophosphamide, Etoposide, Prednisone, Vincristine, Doxorubicin and Rituximab also support the treatment protocol (13). Immunomodulators including thalidomide and lenalidomide with impressive antitumor effect have shown promising outcomes (16). Vorinostat, first FDA approved Histone deacetylase inhibitors were found to yield an enormous and profound outcomes in the lines of treatment planning and prognosis in groups of cutaneous T-cell lymphoma (17). Blockade of intracellular signalling by temsirolimus (mTOR inhibitor),

enzastaurin, a protein kinase C beta inhibitor and bortezomib, a proteasome inhibitor, is also under study (18). Bortezomib, another FDA approved drug which works by the mechanism of proteasome inhibition were found to exhibit promising effects in tumor groups of mantle cell lymphoma. Targeted therapies which were under investigation are as follows: Sorafenib (Nexavar®), a multi-kinase inhibitor targeting kinases followed by Pazopanib, axitinib and tivozanib (VEGF-R inhibitors) and quizartinib and crenolanib [fms-like tyrosine kinase receptor (FLT3)] inhibitors (18).

HODGKIN'S DISEASE:

Hodgkin's disease, as the name suggests, came into literature manuscript in the year 1832 by Thomas Hodgkin (10). It is common in males and have a bimodal distribution in adolescence and adulthood. Asymptomatic cervical adenopathy with or without accompanying symptoms such as pyrexia and night sweats is one of the early manifestation (11). It commonly affects lymph nodes of cervical area, axilla, inguinal regions and waldeyer ring. Involved nodes are firm, rubbery in consistency and the overlying skin tends to be normal. Based on prominent histopathologic feature, it is classified as follows: Nodular sclerosis, Mixed, Lymphocyte-depleted, Lymphocyte-

rich and Nodular lymphocyte-predominant Hodgkin's disease (12).

DIAGNOSIS: Lymph node biopsy is effective since FNAC exhibits low diagnostic yield (11). Staging is important for planning treatment, estimating prognosis and confirmation of working diagnosis. A detailed and comprehensive case history taking and assessment, followed by physical examination, radiographic techniques and hematologic laboratory tests may aid clinicians in arriving out a definite provisional diagnosis. Nowadays, determining the site and extent of involvement of disease progression using PET scans is becoming a gold-standard protocol in tumor management. Invasive surgeries such as exploratory laparotomy is mandatory to be carried out only if the determined surgery would have an serious impact on the outcomes of tumor staging, prognosis and treatment planning (19).

TREATMENT: BEACOPP and ABVD Chemotherapy regimens forms the main course of treatment. Salvage chemo regimens, such as ICE, DHAP, ESHAP and GVD also have proven beneficial. Targeted therapy such as Pembrolizumab, Nivolumab and Brentuximab Vedotin were found to improve outcomes in relapsed/refractory (R/R) cases and increase Complete Response Rate (CRR) on pretransplant FDG PET, a strong predictor of post transplant outcome (20). Nivolumab's adverse reactions were in the form of autoimmune effect and Pembrolizumab's adverse effects were pneumonitis and thyroid disorder. Recently developed newer biological agents in management of lymphoma are yet to yield fruitful outcomes in near future (21). CD123 antigen were found to exhibit high therapeutic inheritance capacity in a preclinical in vivo model of Hodgkin lymphoma which targets CAR T cells i.e., autologous T cells. AFM13, targets natural killer cells by binding of CD16A on natural killer cells, thereby results in activation of natural killer cells, its subsequent termination and tumor cell lysis. Lenalidomide, everolimus (mTOR inhibitors), Panobinostat (pan-deacetylase inhibitor) integration into ancient lines of therapy will cause relapse or facilitate durable remission is yet to be evaluated. One of the most recent modification from the basic model of Involved Field technique to Involved Site Radiotherapy technique were found to lessen the adverse effects of conventional radiotherapy in which the radiotherapy field size is drastically minimized, hence targeting only the defined pretreatment dimension of involved tumor sites (22).

RHABDOMYOSARCOMA:

Rhabdomyosarcoma is one of the malignant tumor of striated muscle in children (10). It exhibits itself as a discrete and asymptomatic mass or swelling affecting orbital region followed by localized and/or generalized regions of oral cavity and pharynx. It is much more com-

mon in age groups younger than 5 years and between 10 and 18 years (11). Four forms of rhabdomyosarcoma are: Pleomorphic, Alveolar, Embryonal and Botryoid

Embryonal: It is commonly occurring sub-type in children and have marked predilection for head and neck. Histopathologic features shows tumors cells with characteristic eosinophilia. The tumor cells are of spindle shaped, arranged in the arbitrary pattern of interlacing fascicles and/or bundles. Few tumor cells were also found to be round in shape and large and/ or intermediate in size. Occasionally, cells with small-sized nucleus and a more coarse and granular cytoplasm, were found to be interspersed in the background of other tumor cells.

Pleomorphic: This spindle cell neoplasm constitutes mainly of tumor cells arranged in a haphazard fashion. Large distinctive bizarre cells with nuclei placed towards its expanded end gives a typical 'racquet' shape whereas 'strap' shaped cells show evidence of cytoplasmic vacuoles with processes of streaming cytoplasm.

Alveolar: A sub-type with harbouring worse prognosis consists of poorly differentiated round cell clusters separated by fibrous septa. Center compartment of the cellular clusters lack cohesion, while peripheral cells will be evident in the form of a monolayer adhering to the septal walls.

Botryoid: This sub-type demonstrates myxoid matrix with minimal ratio of scattered primitive mesenchymal cells. A hallmark feature of 'cambium layer' i.e., peripheral zone of increased cellularity is usually found. Regardless of the histologic subtypes, special stains like trichrome stains differentiates rhabdomyosarcoma from other neoplasm, however, histopathologic analysis forms the gold standard diagnostic method (10,23).

TREATMENT: Surgical excision of the tumor is the main stay of treatment. Resection needs to be combined with radiotherapy / chemotherapy in residual disease (11). Main chemotherapy regimens include IVA and VAC. TABLE 3 illustrates some of the molecular targeted drugs useful in rhabdomyosarcoma. Lipid-prostamine-siRNA nanoparticles targeting one of the fusion protein PAX-FOXO1 expressed in rhabdomyosarcoma inhibits the formation of fusion transcript, thereby, decreasing the proliferation of tumor. Entinostat, a class-I HDAC, inhibits formation of PAX3-FOXO1. Due to the mechanism of Entinostat induced sensitization to chemotherapy, PAX3-FOXO1 mRNA undergoes destabilization (vitro/vivo), thereby favouring PAX-FOXO1 as a potential therapeutic target (24). ^{99m}Tc bone scintigraphy have significant prognostic value in evaluation of distant/ skeletal metastases and tumor staging (15).

NASPHARYNGEAL CARCINOMA:

This head and neck tumor has its origin from the nasopharyngeal epithelial cells. Its incidence rates exhibits a bimodal pattern with one peak affecting much more

Table 3: Molecular targeted drugs in Rhabdomyosarcoma

Treatment	Target molecule
Pazopanib	PDGF- α , VEGF-I, 2, 3, c-kit
Bevacizumab	VEGF
Sorafenib	VEGF-2,3, PDGFR- β , FLT3, and c-KIT
Crizotinib	MET, ALK, ROSI and RON
Temsirolimus	mTOR
Cixutumumab	IGF-IR

ALK, anaplastic lymphoma kinase; ROSI, ROS proto-oncogene I receptor tyrosine kinase; RON, Recepteur d'Origine Nantais; IGF-IR, insulin-like growth factor I receptor

young adolescent age group whereas another affecting the mid-50s. It is found to have a high incidence in Southeast Asia and has been associated with environmental agents such as intake of specific herbs, fishes and smoking (25). Epstein Barr Virus (EBV) elevated titer values were found to be associated with extensive disease. It presents with features of epistaxis, nasal obstruction and auditory dysfunction including, a diminution in hearing capacity and tinnitus, a characteristic feature of Eustachian tube dysfunction which occurs due to the spread of the lesion into the paranasopharyngeal space. Another common finding is fifth and sixth cranial nerve palsies which arises as a result of tumoral cells spread in an upward direction resulting in erosion of skull base. Other symptoms include headache, diplopia, facial numbness and enlarged lymph nodes. Since ear and nose related sign and symptoms are vague, non-specific and often neglected at an earlier stage, majority of NPCs are often diagnosed during its late stage (11). **DIAGNOSIS:** Direct visualization and examination of nasopharyngeal space for nasopharyngeal tumor is mandatory. MRI of skull base is preferred over CT, since it clearly delineates the extent of invasion of primary tumor infiltration into the deeper structures. NPCs fall into three categories as per WHO classification modified by Kruger and Wustrow: Squamous cell carcinoma followed by Non-keratinizing tumors without and/or with presence of lymphoid stroma and Undifferentiated types. Staging and grading of nasopharyngeal carcinomas are based on gold-standard TNM-classification (25). If suspicion of bone metastasis arises, a bone scan will usually suffice. Polymerase chain reaction to determine the viral loads of EBV and anti-EBV-IgA, MRI and PET not only aids us in monitoring therapeutic response to treatment protocol and also, requires mandatory repeatation after every neoadjuvant chemo and/or radiation therapy.

Changes in the uptake of 18F-FDG by tumoral lesional cells during the ongoing course of therapies have found to significantly affect prognostic value.

TREATMENT: Surgery and radiotherapy forms the main course of treatment. Non-keratinizing sub-types are sensitive to both radiotherapy and chemotherapy. Those tumors at an earlier stages are usually treated with radiotherapy while concomitant chemoradiation is standard for advanced tumors. Intense Modulated Radiotherapy (IMRT) along with concomitant chemotherapy have improved outcome. Nasopharyngeal cancer is sensitive to cisplatin-based regimens. Induction chemotherapy combines cisplatin, 5-FU, and epirubicin with or without bleomycin. Recurrence might be cured with re-irradiation or salvage surgery; in most patients palliative platinum-based polychemotherapy is the treatment. Bone metastases should be irradiated (26). Late complications including xerostomia, ototoxicity, fibrosis, osteoradionecrosis, necrosis and destruction of regions of temporal lobe, bulbar palsy, hypogonadism (hypothyroidism and hypopituitarism) and secondary cancers tend to occur. MRI and EBV-serology/DNA deducts relapse (25).

THYROID CARCINOMA:

Thyroid cancers were common in paediatric population less than 18 years (27). It usually arises as an asymptomatic mass/swelling in the regions of the neck, with/without cervical adenopathy, with accompanying dysnoea and/or hyperthyroidism. Increased malignant potential of this tumor, especially in pediatric age groups which is opposite in adolescents necessitates nodule identification at a very earlier stage. Papillary thyroid carcinoma (PTC) constitute 90% and follicular sub-type contribute to 10% of thyroid cancers. Paediatric thyroid cancers follows an aggressive course, high recurrence, metastases,

extrathyroid extension and lymph node involvement rather than adolescents. Larger tumor size with bilateral and multifocal disease in childhood poses the need of comprehensive surgery in pediatric patients resulting in transient/ permanent hypoparathyroidism and recurrent laryngeal nerve damage. Radio-active Iodine therapy (RAI) is associated with an increase in second primary malignancy, especially salivary cancer (28). As childhood thyroid is radiosensitive, thyroid cancers tend to occur in those population who are exposed to radiation at a tender age. Example, after Chernobyl accident and nuclear bombings in Hiroshima and Nagasaki, thyroid cancers incidence were high in children since they have been exposed to high dose of ^{131}I . Secondary thyroid carcinoma after radiotherapy to the neck has been reported after a regular follow-up for a period of 30 years once the diagnosis of HL is made (29). Flow chart 1 gives an comprehensive overview of how to initially evaluate, approach and follow-up a paediatric thyroid nodule. FNAC are categorized based on Bethesda schema. Non-diagnostic cytopathology specimens with minimal cellularity and poor preservation places requirement of a repeat FNAC as a better option. However, it must be delayed for atleast a span of 3 months to minimize the effects of the characteristic features of cellular atypia that may eventually arise during regeneration and repair. Levothyroxine (LT4) suppression were found to reduce nodule size and the risk of subsequent nodule formation. Thyroid hormone supplementation in radiation-induced thyroid nodules decreased subsequent nodule formation. Taking into account, high false-negative rate of FNAC and to simplify follow-up, surgery is mandatory in FNAC-documented benign nodules >4cm. Ultrasound examination, CT or MRI are the standard diagnostic modalities. In cases, wherein, an iodinated contrasts are used, a delay in 2–3 months before starting the treatment course with RAI is mandatory until quantity of total body's iodine declines. CT has shorter image acquisition times and reduces the need for conscious sedation in children. In evaluation and investigation of newly diagnosed tumors, thyroid nuclear scintigraphy should come into play only if patient exhibits a suppressed TSH (30). Total thyroidectomy is the main modality of treatment. Adequate thyroid tissue must be left spared in cases of near-total thyroidectomy to prevent any iatrogenic complications posed to vital structures those found in the vicinity, i.e., recurrent laryngeal nerve. In case scenarios, where distant metastases were found to involve those structures in the central or lateral neck regions, removal of thyroid gland intoto combined with a neck dissection is required. Assessment of tumor size and its focality determines the need of a prophylactic neck dissection. High risk of recurrence is found in solid/trabecular/follicular sub-types followed by non-invasive follicular lesions with papillary-like nuclear fea-

tures (31). Re-operation is needed if there is increase in size and subsequent loss of central hilum. Doppler findings suggestive of Presence of peripheral vascularity and characteristic micro calcifications harbours high risk for malignancy. Before proceeding with lymph node dissection, in addition to lymph nodes assessment using USG, an aspiration cytology to rule out metastasis involving lateral lymph nodes of the regions of the neck is required. In cases of persistent locoregional involvement, ATA enforces the usage of radioactive iodine therapy. Indications for radioactive iodine therapy differ between adult age and paediatric population. As derived from the publication of NCCN, radioactive iodine therapy is indicated in adults with PTC, whose primary tumor size >2–4 cm, extra thyroidal invasion and involvement of regional lymph nodes. Some of the ill-effects of ^{131}I include sialadenitis, dry mouth, stomatitis, xerophthalmia and obstruction of nasolacrimal ducts. Bone marrow suppression may follow but deranged hematologic parameters will revert back to normalcy with an approximate time period of 30 to 60 days after ^{131}I exposure (30). Vandetanib, cabozantinib, lenvatinib, sorafenib, combination of dabrafenib/trametinib and larotrectinib have received FDA approval (31). Targeted radiotherapy with somatostatin analogs or ^{131}I - Meta-IodoBenzyl Guanidine (MIBG) has its own limitations (26).

MUCOEPIDERMOID CARCINOMA (MEC):

This common salivary gland neoplasm, is usually aggressive with high incidence rates in parotid and minor salivary gland. An enlarging mass in the regions of head and neck, especially if rich in typical cellular features of salivary glands must arise a clue of MEC. MEC, as the name suggests, consists of a mixture of mucous and epidermoid cells. Intermediate cells are also found in varying proportions. Clear cell change is seen in epidermoid cells, due to glycogen accumulation. Being cystic to solid, tumors proliferates intraluminally. MECT1-MAML2 translocation were the main drivers of tumor. FNAC and needle core biopsy helps in establishing diagnosis (32). Wide surgical excision is usually adequate. In those cases of high grade tumors with evidence of positive margins and minimal residual disease, in addition to wide surgical excision of tumor, an adjuvant therapy is mandatory to avoid relapse in near-future. In histopathologic specimens, where there is evidence of close margins after tumor excision, a re-surgery is necessary (33). Various challenges exist in the platform of evidence based research especially in the field of paediatrics. First and foremost challenge faced in research and recent advancements pertaining to paediatric community is the small disease cluster, when compared to adults in which cancers were found to be 40 times more common (18). Enforcing more sensible and specific therapies with features of less damage and/or side effects in children,

which differ in terms of adult cancers is of prime significance (34). With respect to Imaging and diagnostics, due to the high risk of carcinogenic effects of radiation, diagnostic aids including ultrasound is used, especially in those wherein a definite provisional diagnosis of cancer is yet to be established. Even cases with a confirmed diagnosis, minimizing the exposure to radiation and its effects by strictly adhering to the principles of ALARA by optimizing radiologic parameters in diagnostic imaging may prove beneficial (15). Updation in diagnostic modalities with latest advancements in perspective of radiotherapy delivery systems allows an efficient control over loco-regional involvement and better tumor delineation by targeting smaller tumor volumes. However, clinically and pathologically malignant free regions those in vicinity to the sites of radiation therapy are prone to develop secondary tumors due to the late effects of non-targeted ionizing radiation which will eventually hamper children normal organ growth, development and cellular metabolism (35). To avoid all aforementioned drawbacks, some of the recent advancements in radiation therapies were come into play.

FLASH RADIOTHERAPY:

This advanced radiotherapy is either based on the protocols of proton/photon radiation. It usually delivers an high dose of around 100 Gy/s within a short span of 60-120 seconds, thereby allowing an exposure of 1.8 Gy fractions. Exploitation of oxygenation levels in surrounding non-cancer cells shields nontargeted sub-sites and thereby, enables features of oxygen desaturation/hypoxia which may lower the long term effects of hazardous radiation.

PROTON BEAM THERAPY (PT):

PT was introduced in the early 90s by Robert Wilson, which came into existence in the year 1958. The PPCR, a registry for proton therapy works with customized terms and conditions, allows gathering of dosimetric values in individuals undergoing proton therapy to expedite evaluation of PT in the pediatric population (36). PT directs irradiation to a deep especially targeted tumour region (37). PT, lowers the inflow and outflow of radiation doses, without deteriorating the therapeutic doses delivered to tumoral sites. Recent advancements which works on the principles of pencil beam and intensity modulation not only aids in effective and efficient dose conformation, and also lessens the effects of cross-contamination with neutrons. Unfortunately, this advanced therapy is expensive with a cost factor of 2.5, but, dosimetrically, it lessens doses delivered to surrounding non-tumoral organs. Children with incurable malignancies and less survival rates were known to be well-efficiently controlled with radiation. In specific scenarios where family members/ affected individuals

may find it difficult to migrate and an unsound financial status with absence of insurance coverage continuing with RT, such as MR – linacs and guided brachytherapy may prove beneficial. PROS with membership of around 150 in number from 37 countries all around the globe including developing and developed nations is yet arrive at a standardized protocol in terms of radiologic imaging parameters for diagnosis and treatment planning in paediatric cancers. PT is associated with sparing of lymphocytes, reduced marrow and immune stem cell toxicity, hence can be combined with other chemotherapy/ immunotherapy (35).

EFFECT OF GLOABAL PANDEMIC:

The corona virus disease has evolved into global pandemic, affecting cancer care amenities to its core especially in developing countries like India. Nationwide lockdowns to curb the spread of the infection have collapsed cancer care delivery services resulting in diagnostic delay, treatment initiation and/or rescheduling causing disease progression and poor survival. Cancer care delivery slowed down due to changing of cancer hospitals into dedicated COVID-19 hospitals and posting staffs to specifically work for COVID-19 patients resulting in lack of man power. Devices such as the Gamma knife, Cyber knife and proton beam machines are scarce and mostly owned by private institutes. Eventually, when Government resources were directed towards the care of COVID-19 patients, it poses difficulty on the poorer stratum of the society to start or continue their cancer treatment in private hospitals, which is beyond their means. Conversion from conventional to hypofractionated schedules in radiotherapy and weekly or two-weekly regimens to three-weekly regimens or from intravenous administrations to oral therapies were formulated to reduce the travel time of patients. Because of immature immune system, Children who are younger than 5 years are vulnerable to develop life threatening signs and symptoms rather than older age groups. Taking corona virus infection into major consideration, inpatient isolation must be strictly adhered especially in paediatric population undergoing intensive chemotherapy. However, in most health care systems, either due to lack of adequate knowledge and/or infrastructure, paediatric cancer community are most often treated as general outpatients. Hence, Minimising number of visitors entering cancer care systems on a daily basis and delaying the appointments or tele-medical team usage for non-critical paediatric community, E.g., children who were in long term follow-up or survivorship clinics, must come into routine clinical practice to reduce the number of visits (38). A study from Latin America reported that there was an indefinite delay of surveillance consultations followed by outpatient procedures, cancer surgeries, radiotherapy schedules, outpatient consultations and pain

and palliative oncology care. Also, Modification in drug regimens was in need due to lack of specific medicines distribution, production and ease of availability. Drastic reduction in paediatric health care system man-power, telemedicine consultations and short of life saving blood products was enlightened in different regions of the countries with much loaded travel restrictions. Patients distant from treatment center have transportation issue in accessing proper care. Family members, though well caring, may not be able to devote time as they wish to provide transportation. Transportation to doctor appointments or from hospital to residence is infrequently covered by insurance creating trouble to economically disadvantaged (39). Another Retrospective from Turkey shown decline trend in Out-patients, chemotherapy and radiotherapy applications, surgical procedures and imaging studies thereby possibility of diagnostic delay may arise in up-coming years. In the same study, during chemotherapy, acquisition of COVID-19 resulted in demise of a child, while, other children recovered with mild symptoms necessitating efficient triage in practice and proper training of staff and patients/care givers during pandemic. Cancer care should not be neglected during pandemic and following waves of outbreaks poses challenge on health care to focus on post-Corona virus period, to fix the damages (40).

Pandemic has enlightened us the shortcomings of the cancer care delivery system in India and importance of mitigating them by establishing more cancer centers and to minimize disparities in access to cancer care experienced by the general population. Considering the pros and cons which were faced by oncology health care system in first wave of pandemic would have enabled the clinical practitioners in serving paediatric population in much more effective manner in this second wave of pandemic. With advent of vaccination against corona virus infection and its usage in groups affecting with paediatric cancers is yet to come into light.

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Περίπτωση αναφοράς οστεοειδούς οστεώματος στον μυελό της κάτω γνάθου

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Κλινική "Άγιος Λουκάς"

Case report osteoid osteoma in bone marrow of mandible

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Case Report
Αναφορά περιστατικού

ΠΕΡΙΛΗΨΗ: Οι ενδοστικές βλάβες των γνάθων είναι σπάνιες παθολογικές καταστάσεις και η προσέγγισή τους απαιτεί ειδική γνώση και εμπειρία. Το οστεοειδές οστέωμα είναι μια καλοήθους νεοπλασματική βλάβη των οστών, η οποία είναι σπάνια στις γνάθους, αυξάνεται με πολύ αργό ρυθμό και το μεγαλύτερο μέγεθός του φτάνει περίπου τα 2cm. Αναπτύσσεται συχνότερα στο φλοιό των οστών, αλλά αναφέρονται περιπτώσεις υποπεριοστικές και σπανιότατα εντός του μυελού των οστών (1,2,3,4). Η αιτιοπαθογένεια του είναι άγνωστη. Λόγω του μικρού μεγέθους της πολλοί υποστηρίζουν ότι δεν πρόκειται για νεοπλασματική αλλά αγγειακής αιτιολογίας βλάβη. Η αναφορά της περίπτωσης αφορά γυναίκα 37 ετών με ακτινογραφική πύκνωση στην περιοχή του 46 μετά από εξαγωγή του εντός του μυελού, λόγω αναφερόμενης αποτυχίας ενδοδοντικής θεραπείας του προ 2ετίας και συνέχιση εμφάνισης συμπτωμάτων στη περιοχή.

ΛΕΞΕΙΣ ΚΛΕΙΔΙΑ: οστεοειδές οστέωμα, κάτω γνάθος, καλοήθους όγκος.

SUMMARY: The intrabony lesions of the jawbones are rare pathological conditions and their approach requires special knowledge and experience. Osteoid osteoma is a benign lesion of the bones, which is rare in the jawbones, increases slowly and its bigger size reaches roughly 2cm. It is more often developed in the cortical bone, but subperiosteal and rarely intramarrow cases have been reported (1, 2,3,4). The pathogenesis of osteoid osteoma is unknown. Due to the small size of the lesion some authors support, that it is not a tumor but a lesion of vascular etiology. The case report is about a 37 year old female, with radiographical osteosclerotic marks in the bone marrow and pain in the region of 46 after its extraction, due to previous failure of a root canal treatment which was performed two years ago and the continuation of the symptoms.

KEY WORDS: Osteoid osteoma, mandible, benign tumor.

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ΕΙΣΑΓΩΓΗ

Το Οστεοειδές οστέωμα είναι μία καλοήθης οντότητα των οστών, η οποία συνήθως φτάνει σε διάμετρο έως και 2cm. Εντοπίζεται συχνότερα στο μηριαίο οστό και στη κνήμη και πολύ σπάνια στα οστά των γνάθων. Αναπτύσσεται συχνότερα στο φλοιό των οστών, αν και αναφέρονται υποπεριοστικές αλλά σπάνια και ενδομυελικές εντοπίσεις (1,2,3,4,5). Ιστολογικά απαρτίζεται από οστεοβλάστες, ελάττωση των αγγείων και πλατιές οστικές δοκίδες που εξελίσσονται σε ζώνες οστεοειδούς με επακόλουθη ενασβεστίωση τους. Το κύριο σύμπτωμα είναι ο πόνος που συνοδεύεται από αγγειοκινητικές διαταραχές και παρατηρείται πολύ πριν γίνουν εμφανή τα κλινικά ή ακτινολογικά ευρήματα^{5,6}. Η βλάβη εμφανίζεται κυρίως σε άτομα της 2ης και 3ης δεκαετίας αλλά μπορεί να εμφανιστεί και σε παιδιά ή εφήβους. Είναι σαφώς όμως σπάνια σε ασθενείς ηλικίας άνω των 30 ετών (1,2,3,4,5,6).

Η περίπτωση της αναφοράς μας είναι μια ασθενής 37 ετών, η οποία μετά από ενδοδοντική θεραπεία και κατόπιν εξαγωγή του 46 παρουσίασε ακτινοδιαγνωστική περιοχή εγγύς του 47 εντός του μυελού και όχι στον φλοιό της κάτω γνάθο.

ΑΝΑΦΟΡΑ ΠΕΡΙΠΤΩΣΗΣ

Ασθενής 37 ετών γυναίκα, με ελεύθερο ιστορικό και με καλή στοματική υγεία, προσήλθε μετά από παραπομπή οδοντίατρου λόγω εμφάνισης σταθερής ακτινοδιαγνωστικής βλάβης εγγύς της ρίζας του 47. Στην περιοχή της βλάβης ο 46 είχε υποστεί ενδοδοντική θεραπεία προ 3 ετών και λόγω των συνεχιζόμενων συμπτωμάτων άλλους έγινε η εξαγωγή του έπειτα από ένα χρόνο (Εικ. 1). Τα συμπτώματα άλλους συνεχίζονταν όχι μόνο στην περιοχή της εξαγωγής, αλλά και στην ομόπλευρη κροταφογναθική διάρθρωση, στον αυχένα και στην περιοχή του γενειοκού τρήματος. Παρατηρήθηκε ακτινογραφικά στην περιοχή της εξαγωγής και εγγύς του 47, ακτινοδιαγνωστική βλάβη με διάμετρο περίπου 18mm. Η ασθενής μπήκε σε παρακολούθηση για ένα χρόνο από τον οδοντίατρό της, οπότε διαπιστώθηκε πως η βλάβη δεν είχε υποστραφεί –ακτινογραφικά– παρά μόνο 2 με 3mm. Αποφασίστηκε να εξαχθεί το δόντι και σε διάστημα 2 ετών μετά την εξαγωγή του 46, η ασθενής αντιμετωπίστηκε από την κλινική μας με εξαίρεση της βλάβης και χειρουργικό καθαρισμό του οστού περιφερικά αυτής. Η ασθενής είχε προσέλθει με MRI σπλαχνικού κρανίου (Εικ. 2). Η ιστοπαθολογική εξέταση έδειξε εξεργασία ενδομυελικού οστεοειδούς οστεώματος (Εικ. 3). Η ασθενής είναι χωρίς συμπτώματα, η βλάβη δεν είναι ορατή ακτινογραφικά κατά τον τακτικό επανελέγχο, για διάστημα 5 ετών (Εικ. 4). Η ασθενής συνεχίζει να βρίσκεται σε καθεστώς τακτικού επανελέγχου.

INTRODUCTION

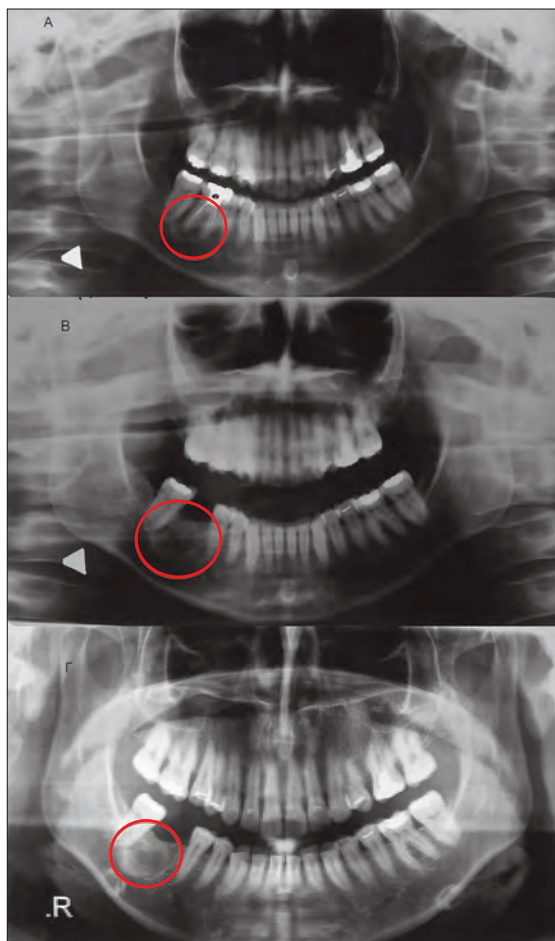
Osteoid osteoma is a benign lesion of the bone, which is usually measured up to 2cm in diameter. It is usually located in the femur and the shin and rarely in the jawbones. It is usually developed in the cortical bone, even though subperiosteal and rarely intramarrow cases are being reported (1,2,3,4,5). Histologically it consists of osteoblasts, reduction of blood vessels and flat bony ribs developing into osteoid zones with their subsequent calcification. The main symptom is pain accompanied by vasomotor disorders and is observed well before the presentation of clinical or radiological findings. The lesion presents mainly in patients in their twenties or thirties, but it can also present in children or teenagers. However, it is definitely rare in patients over 30 years old (1,2,3,4,5,6).

The reported case is a 37 year old female, that presented with a radiolucent area in the mesial part of 47 intramarrow and not on the cortical bone of the mandible, after endodontic treatment and extraction of 46.

CASE REPORT

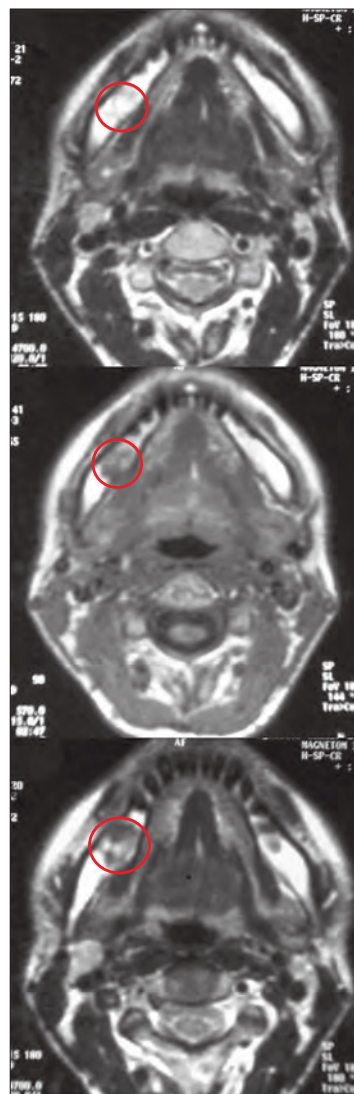
A 37 year old woman, with a free medical history and good oral hygiene, was referred by a general dentist due to the presence of a radiolucent lesion on the mesial part of the root of tooth 47. In the area of the lesion, an endodontic treatment had been performed on tooth 46 3 years ago and due to continuing painful symptoms was extracted after a year (Fig. 1).

Painful symptoms continued not only in the extraction area, but in the adjacent TMJ, the neck and the mental foramen area. In the extraction area mesial to the tooth 47, there was a radiolucent lesion roughly 18mm in diameter. The patient was followed up for a year from her dentist, when it was observed that it had not regressed radiologically, only by 2 to 3 mm. The tooth was extracted and 2 years after that, the patient was treated in our clinic by removing the lesion and surgically cleaning the peripheral bone. The patient had presented with a visceral skull MRI (Fig. 2). Histopathological examination showed an intramarrow osteoid osteoma process (Fig. 3). The patient is asymptomatic, the lesion is not radiologically visible during the regular 5 year follow up (Fig. 4). The patient is continuing to be monitored regularly.



Εικ. 1: Πανοραμικές ακτινογραφίες, Α. με τον 46 με ενδοδοντική θεραπεία, Β. μετά την εξαγωγή του 46, Γ. ακτινοδιαγναστική περιοχή εγγύς του 46.

Fig. 1: Orthopantomographs, A. of tooth 46 with endodontic treatment, B. after the extraction of tooth 46, C. radiolucent area mesial to tooth 46.



Εικ. 2: MRI απεικόνιση της περιοχής του 46.
Fig. 2: MRI imaging of tooth 46 area.

ΣΥΖΗΤΗΣΗ

Το οστεοειδές οστέωμα περιγράφηκε ως μια οντότητα από τον Jaffe το 1935 και αρκετές δημοσιεύσεις συμφωνούν με τα αρχικά κριτήρια όπως προτάθηκαν. Αυτά είναι: η βλάβη είναι καλοήθους νεοπλασία, αποτελείται από μεγάλες ποσότητες ενασβεστωμένου οστεοειδούς, λίγα φλεγμονώδη στοιχεία. Τα ακτινογραφικά χαρακτηριστικά του οστεοειδούς οστεώματος είναι η εστιακή αραίωση και η οστική αντίδραση η οποία εμφανίζεται σε κάποια απόσταση από τη βλάβη και παρουσιάζεται πιο συχνά σε νεαρούς ενήλικες (7).

Ο Jaffe περιγράφει ένα τύπο βλάβης ο οποίος παρουσιάζει σκληρό πυρήνα και αποτελείται από πυκνό οστίτη ιστό και νεοσύστατες άτυπες οστικές δοκίδες (8).

Επίσης περιέγραψε από τότε μεταβολές όπως η αυξημένη αγγείωση, η οστική απορρόφηση και αντικατάστασή του από οστεογενετικό στρώμα συνδετικού ιστού

DISCUSSION

Osteoid osteoma was described as an entity by Jaffe in 1935 and several papers agree with the initial characteristics that had been suggested. These are the following: the lesion is a benign tumor, consists of big amounts of calcified osteoid, few inflammatory components. Radiological characteristics of osteoid osteoma are focal dilution and bony reaction that occurs in some distance from the lesion and usually in young adults (7).

Jaffe describes a type of lesion that presents with a hard core and dense bony tissue and newly formed atypical bony ribs (8).

Since then, he also described changes such as increased vasodilation, bone resorption and replacement by osteogenic layer of connective tissue and finally a distortion of the architecture of the bone (9).

Some authors suggest the idea of a developmental em-

και τελικά η διαταραχή της οστικής αρχιτεκτονικής (9). Μερικοί συγγραφείς προτείνουν την άποψη της αναπτυξιακής εμβρυολογικής ανωμαλίας. Άλλοι πάλι παρατήρησαν πως ιστολογικά υπάρχουν χαρακτηριστικά της φλεγμονής (10,11). Ο Pines και συνεργάτες του παρατήρησαν αλλαγές στη φλεγμονή, όπως απομόνωση της βλάβης, έλλειψη των βασικών συμπτωμάτων της φλεγμονής. Τα ίδια παρατήρησαν και οι Flaherty, Pugh και Dockerty (12,13,14). Το πιο συχνό σύμπτωμα είναι ο πόνος και περιγραφές για την διάρκεια την ποιότητα ή τη συχνότητα, συμφωνούν σε αρκετές μελέτες (15,16,17,18). Ο Golding πιστεύει ότι τα αγγειακά στοιχεία είναι υπεύθυνα τόσο για τον πόνο όσο και για την οστική αντίδραση στη βλάβη (19). Ακόμη άλλοι παρατήρησαν την ύπαρξη γύρω από την βλάβη στον αγγειώδη ινώδη αντιδραστικό ιστό, συνδέσεις νευρικών ινών και απέδωσαν σε αυτές τον πόνο κατόπιν πίεσης (20,21). Η πλειοψηφία των ασθενών με οστεοειδές οστέωμα διαπιστώθηκε ότι βρίσκονταν στις δύο πρώτες δεκαετίες της ηλικίας τους κατά τον Freiburger και σε 60 (από σύνολο 80) ασθενείς η ηλικία τους ήταν 5 έως 20 ετών, με δύο ως τρεις φορές πιο συχνή εκπροσώπηση των ανδρών (17,19).

Η κλασική ακτινογραφική εικόνα του οστεοειδούς οστέωματος είναι ακτινοδιαγαστική στρογγυλή ή ωοειδής βλάβη ενώ κεντρικά παρατηρούνται ενασβεστώσεις και περιφερικά ζώνη σκληρυντικού οστού (5). Τα ακτινογραφικά στοιχεία είναι σημαντικά για την διάγνωση κατά τον Jaffe, με ακτινοδιαύγασση περικυκλωμένη από μια αντίδραση μεταβλητή όπου παρατείνεται. Επίσης το ώριμο οστεοειδές οστέωμα έχει μεγαλύτερη ακτινοδιαύγασση από το λιγότερο ώριμο. Οι Prichard και McKay αναφέρουν πως η ενασβεστίωση της βλάβης οδηγεί σε νεότερες φάσεις ανάπτυξης με κεντρικότερο μηχανισμό πυκνότητας και αδιαφάνειας και έτσι συνέχιση ενός φαύλου κύκλου με εναπόθεση ιστού περιφερικά (6,18,22).

Ιστολογικά διακρίνονται τρεις φάσεις εξελικτικής διαφοροποίησης. Η πρώτη χαρακτηρίζεται από οστεοβλάστες με καλή αγγειακή υποστήριξη. Στη δεύτερη ή ενδιάμεση φάση το οστεοειδές παράγεται μεταξύ των οστεοβλαστών. Και στη τρίτη ή ώριμη φάση, το οστεοειδές ενασβεστιώνεται και μετατρέπεται σε συμπαγές άτυπο δοκιδώδες οστό (5,23).

Η διαφορική διάγνωση αφορά όλες τις οστικές βλάβες καλοήθεις και κακοήθεις. Πολλοί θεωρούν πως το οστεοβλάστωμα και το οστεοειδές οστέωμα ανήκουν στην ίδια νοσολογική οντότητα, με διαφορές μόνο στην ιστολογική και στην κλινική εικόνα τους (24,25,5).

bryological anomaly. Others observed the presence of inflammation traits histologically (10,11). Pines et al. observed changes in inflammation, such as isolation of the lesion and an absence of basic inflammatory symptoms. The same observations were made by Flaherty, Pugh and Dockerty (12,13,14). The most common symptom is pain and the descriptions for the duration, the quality and the occurrence are similar in several studies (15,16,17,18). Golding believes that vascular components are responsible for the pain as well as the bone reaction to the lesion (19). Moreover, other researchers observed nerve fibers' connections around the lesion in the vascular fibrous reactive tissue and they attributed pain on palpation to them (20,21).

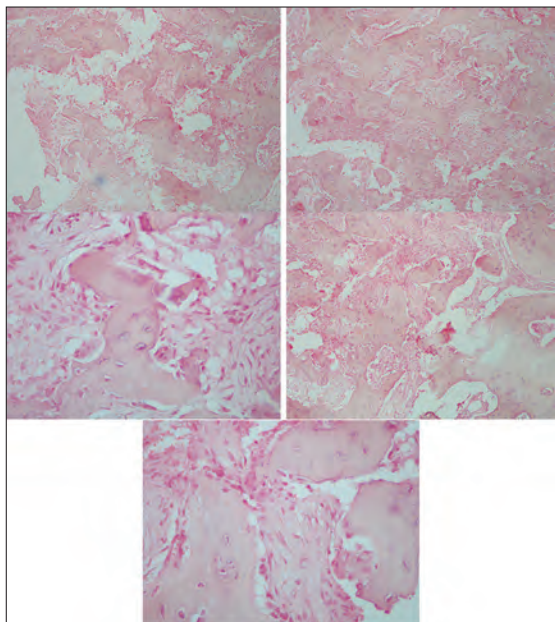
The majority of patients with osteoid osteoma were up to 20 years old according to Freiburger and in 60 (out of a total of 80) patients the age varied from 5 to 20 years old, with men being represented two to three times more often (17,19).

The typical radiological imaging of osteoid osteoma is a radiolucent circular or ovoid lesion while calcifications can be observed in the center and a zone of hardened tissue peripherally (5). Radiological evidence are important for diagnosis according to Jaffe, with a radiolucency surrounded by a changing reaction where the lesion is extended. Moreover, a mature osteoid osteoma is presented with a larger radiolucency from a less mature one. Prichard and McKay suggest that the calcification of the lesion leads to newer phases of development with a more central mechanism of density and opacity and thus, to the continuation of a circle with tissue deposits peripherally (6,18,22).

Histologically there are three distinct phases of developmental differentiation. The first is characterized by osteoblasts with good vascular support. In the second or middle phase osteoid is produced between osteoblasts. And in the third or mature phase, osteoid is calcified and turns into atypical cortical trabecular bone (5,23).

Differential diagnosis includes every benign and malignant bone lesions. It is suggested that osteoblastoma and osteoid osteoma belong to the same pathological entity, with their only differences in their histological and clinical presentation (24,25,5).

The treatment of osteoid osteoma includes its total removal and curettage of the bone walls, even though relapses have been reported from two up to nine years later. A case of osteoid osteoma turning into osteosarcoma has been reported, as well as a case of double relapse of osteoid osteoma, where a gnathectomy

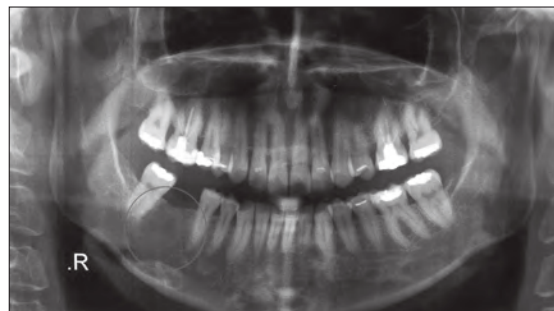


Εικ. 3: Ιστοπαθολογικές εικόνες οστεοειδούς οστεώματος
Fig. 3: Histopathological images of osteoid osteoma.

Η θεραπεία του οστεοειδούς οστεώματος είναι η πλήρης αφαίρεσή του και η απόξεση των τοιχωμάτων, αν και έχουν αναφερθεί υποτροπές από δύο έως και εννέα χρόνια. Έχει αναφερθεί μία περίπτωση εξαλλαγής σε οστεοσάρκωμα, όπως και μία διπλής υποτροπής οστεοειδούς οστεώματος, όπου έγινε γναθεκτομή. Τα συμπτώματα άλγους υποχωρούν με ΜΣΑΦ και κυρίως ασπιρίνη (24,25,5).

ΣΥΜΠΕΡΑΣΜΑ

Η έλλειψη γνώσεων σχετικά με την γένεση του οστεοειδούς οστεώματος και τη σύγχυση με παρόμοιες αλλοιώσεις των οστών, κάνει την ακριβή καταγραφή των δεδομένων της βλάβης ένα δύσκολο πρόβλημα. Είναι προφανές ότι ο μικρός αριθμός των περιστατικών οστεοειδούς οστεώματος στις γνώθους, δεν επιτρέπει μια πάγια άποψη σχετικά με την εν λόγω βλάβη και τη συμπεριφορά του. Δεν είναι παράλογο να υποθέσει κανείς ότι η εμφάνιση του σε αυτές τις περιοχές είναι πιο συνηθισμένη από τι έχει υποδείξει η βιβλιογραφία και ελπίζουμε ότι οι συνάδελφοι ιατροί ή οδοντίατροι θα συνειδητοποιήσουν ότι αυτό θα οδηγήσει σε περισσότερες περιπτώσεις από ότι έχουν αναφερθεί βιβλιογραφικά.



Εικ. 4: Πανοραμική αντινογραφία επανελέγχου μετά την εκτομή της βλάβης του Ο.Ο.

Fig. 4: Follow up orthopantomograph after the removal of the lesion of osteoid osteoma.

was performed. The pain symptoms are treated with NSAIDs and mainly aspirin (24,25,5).

CONCLUSION

The lack of knowledge regarding the genesis of osteoid osteoma and the confusion with similar bone lesions makes the precise recording of the lesion data very difficult. It is evident that the small number of cases of osteoid osteoma in the jaw bones does not allow a standardized approach regarding this lesion and its behavior. It might be prudent to assume that its presentation in those areas is more common than suggested by the literature and we hope that our colleagues will realize that this will lead to more cases than those reported in the literature.

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Rare case of Intraoral lipoma masquerading as fibroma – case report and literature review

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Σπάνια περίπτωση ενδοστοματικού λιπώματος που εμφανίζεται ως ίνωμα – αναφορά περιστατικού και βιβλιογραφική ανασκόπηση

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Case Report
Αναφορά περιστατικού

SUMMARY: Lipomas represent a benign neoplasm of mature adipocytes. It rarely occurs in the oral mucosa, whilst they are very common extraorally especially the upper extremities. They have a 20% prevalence rate in the maxillofacial region, of which 1-4% occur in the oral cavity. When they do occur, they are often asymptomatic, but provide problems during speech, deglutition and ulcerations. Though it presents difficulty in clinical diagnosis. Meticulous investigative protocol should be followed to recognize differential diagnosis of such tumors in the oral cavity.

KEY WORDS: Lipoma, Mesenchymal Neoplasm, Oral Cavity, Neoplasm

ΠΕΡΙΛΗΨΗ: Τα λιπώματα είναι καλοήγη νεοπλασμάτα που ορμώνται εκ των ώριμων λιποκυττάρων. Εμφανίζονται σπάνια στον στοματικό βλεννογόνο, ενώ είναι πολύ συχνόι όγκοι εξωστοματικά, ιδιαίτερα στα άνω άκρα. Έχουν ποσοστό επιπολασμού 20% στην γναθοπροσωπική περιοχή, εκ των οποίων μόνο το 1-4% εμφανίζεται στη στοματική κοιλότητα. Όταν εμφανίζονται, είναι συχνά ασυμπτωματικά, αλλά μπορεί να δημιουργούν προβλήματα κατά την ομιλία, διαβρώσεις και έλκη του βλεννογόνου. Καθώς υπάρχει δυσκολία στην κλινική διάγνωση, θα πρέπει να ακολουθείται σχολαστικό πρωτόκολλο διερεύνησης για την ορθή διαφορική διάγνωση τέτοιων όγκων στη στοματική κοιλότητα.

ΛΕΞΕΙΣ ΚΛΕΙΔΙΑ: Λίπωμα, Μεσεγχυματικό νεόπλασμα, Στοματική κοιλότητα, Νεόπλασμα

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INTRODUCTION

Lipoma, is a benign mesenchymal tumor of the adipocytic cells. They are named after their histological description where they are characterized by an encapsulated tumor of mature adipocytes in a fibrous connective tissue stroma (1,2). It was first described by Roux in 1848 (3). The incidence of rate of lipomas in the maxillofacial region has been estimated to be around 15%-20%. Intraorally, they originate from the buccal pad of fat (4), they are also seen in the tongue, floor of the mouth, gingiva, hard palate and major salivary glands (5). 2% to 3% of the patients presenting with lipoma have a hereditary pattern in their fourth decade of life. Clinically, they manifest as a slow-growing, sessile, painless, soft, circumscribed tumor. Solitary lipomas are often considered as a component of Gardner syndrome, adiposis dolorosa, and madelung disease (6-8). In this paper, we discuss a rare occurrence of intraoral lipoma and discuss the problems arising due to its striking similarity with other tumors of the oral cavity.

CASE REPORT

A 31 year old female reported to the outpatient clinic with a swelling inside her right cheek for past 1 year. The growth was in relation to right lower back tooth region, it had started small in its size but progressed to its current size. The swelling was not tender and there was no history of previous episode of such growth. Intraoral examination revealed a solitary, sessile, ovoid growth, pale pink in colour on the right sided buccal mucosa. The swelling was around 1 cm * 1 cm in relation to 43, 44 region with well-defined margins [Figure 1]. On palpation, the growth was found to be soft, fluctuant, non-tender. Considering the chief complaint and the clinical features it was provisionally diagnosed as traumatic fibroma in relation to right buccal mucosa. Differential diagnosis included mucocele, lipoma, fibroma and pyogenic granuloma.

The hematological parameters were tested and were within the normal range. Excisional biopsy of the growth was performed under local anesthesia [Figure 2] [Figure 3]. Patient was prescribed antibiotics and analgesics post-operatively. The histopathological section of the excised specimen revealed circumscribed lobules of plump adipocytes that were separated into lobules by a thin connective tissue septae. This was associated with a parakeratinized stratified squamous epithelium. These features suggestive of a lipoma. Patient was reviewed the following week, healing was satisfactory with no recurrence after a follow up of 2 years.

DISCUSSION

Roux in 1848, described lipoma as yellow epulis. It



Fig. 1: Pre operative clinical photograph



Fig. 2: Post operative clinical photograph

is one of the most common mesenchymal tumors in the body. In the maxillofacial region, it presents with a prevalence rate of 4% to 5% (9) with intraoral occurrence has a reported prevalence rate of 0.1% to 5% (10). Its involves adults in their third or fourth decade (11) with a male-female ratio of 1:1.2 (12). The etiology though unclear, has been linked to traumatic incidents, infection with two-thirds of lipomas exhibit genetic abnormalities with structural rearrangements of chromosomes involving 12q13-15 region, 13q portion loss, 6p21-23 region (13). Clinical manifestation include slow growing, sessile, fluctuant with a characteristic yellowish colour. In our case, the swelling was found to be mobile, fluctuant and non-tender, these features were all positive in our case. Due to the striking similarity with the other oral tumors, biopsy followed by histopathological examination remains the gold standard in the diagnosis of lipoma (14). In our case, the excised specimen revealed mature adipocytic lobules that were separated by thin connective

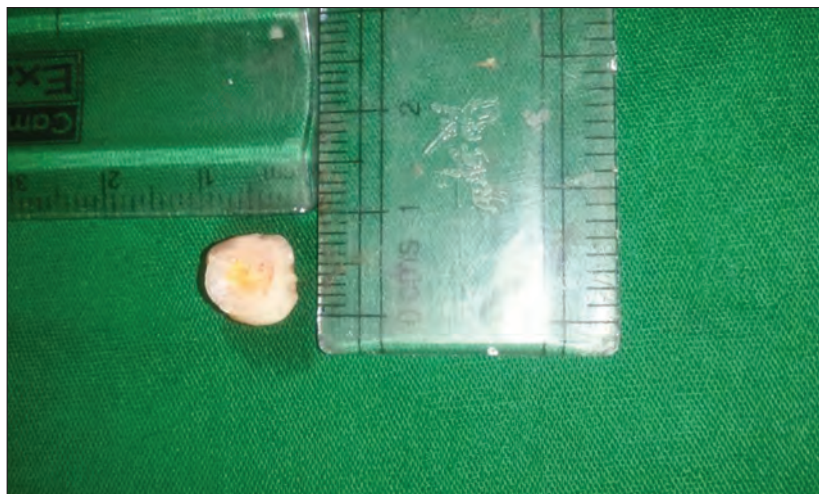


Fig. 3: Gross picture of the excised specimen.

tissue septa without cellular atypia or lipoblast, features that were suggestive of a lipoma.

Although traditional biopsy is the gold standard, it poses difficulties especially for trans-mucosal lesions. In such cases, Fine Needle Aspiration cytology (FNAC) is relatively safe, economical technique that causes very minimal trauma since the oral cavity and oropharynx are readily accessible for FNAC. The FNAC smears have high sensitivity, specificity and diagnostic accuracy (15, 16) and differentiates between benign from malignant lesions, (liposarcoma from lipoma) thereby avoiding the aggressive management for tumors that can be treated conservatively (17). Cytological features of lipoma include fragments of adipocytic tissue with univacuolated mature adipocytes with eccentric nuclei. However, when drawing aspirate from a suspected lipoma, care should be taken to place the needle in the centre of the tumor, as any peripheral aspirate would resemble normal subcutaneous tissue. Liposarcomas are differentiated by increased vascularity, scattered or clustered adipocytes with multivacuolated cytoplasm and histiocytes with foamy cytoplasm (lipophages).

Advanced diagnostic aid in lipoma involves analyzing the MDM2 (murine double minute-2) gene amplification to differentiate between the lipoma and its malignant counterparts such liposarcoma, pleomorphic lipoma, spindle cell lipoma, angiolipoma, chondrolipoma, pleomorphic lipoma, fibrolipoma, and sialolipoma (18). The differential diagnosis include epidermoid cysts, oral lymphoepithelial cyst, benign salivary gland tumor, mucocele, ranula, lymphoma and a unique differential entity called as traumatic pseudolipoma where there is herniation of the buccal fat pad due to a traumatic incident such as laceration, tear etc., It is usually seen in infants and young children due to their large buccal fat pad a trauma sustained from laceration (19). The inflammation from the trauma initiates a cytokine mediated differentiation of adipocytes followed by haematoma formation. Some patients who present

with posttraumatic lipoma have shown elevated levels of thromboplastin (20,21). Traumatic pseudolipoma are often differentiated from lipoma by their history of trauma and a clinical observation of the swelling that is yellow or red in colour in initial stages but gradually transitions to a purple or deep blue colour due to thrombosis.

Surgical excision along with the fibrous capsule to prevent reoccurrence is the treatment of choice (22). For lipomas which are more than 1 inch in diameter, it is advised to give intralesional lidocaine and triamcinolone acetonide in the ratio of 1:1 for lipolysis, which reduces the size of the tumor due to local fat atrophy, also useful in the regression of lesion (23). There is no recurrence after adequate excision.

CONCLUSION

Proper diagnosis, management and treatment of these lesions are of utmost importance due to the occurrence and similar presentations with neoplastic growths, though the incidence is rare. The dentist should be familiar with the types and methods that are at the disposal for diagnosing such tumors. Solitary lipoma should always be ruled out of any underlying syndromes.

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Oral exostoses – A rare case report and literature review

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Στοματικές εξοστώσεις – Αναφορά σπάνιας περίπτωσης και ανασκόπηση βιβλιογραφίας

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Case Report
Αναφορά περιστατικού

SUMMARY: Oral Buccal Exostoses are benign bony protuberances that arise from the cortical bone. They are named after their location such as torus palatinus if it arises in the palate and torus mandibularis, if it arises from the mandible. The etiopathogenesis is still unclear with various authors citing racial, genetic, teeth attrition, parafunctional habits and even nutritional factors. Though asymptomatic, surgical intervention becomes mandatory when esthetics are of concern or during denture fabrication in terms of edentulous alveolar ridge.

KEY WORDS: Exostoses, Buccal, osteotomy, Tori, denture, Surgery

ΠΕΡΙΛΗΨΗ: Οι στοματικές εξοστώσεις είναι καλοήθεις οστικές προεξοχές που προκύπτουν από το φλοιώδες οστό. Ονομάζονται από τη θέση τους, όπως torus palatinus εάν προκύπτει στον ουρανίσκο και torus mandibularis, εάν προέρχεται από την κάτω γνάθο. Η αιτιοπαθογένεση είναι ακόμα ασαφής με διάφορους συγγραφείς να αναφέρουν φυλετικούς, γενετικούς παράγοντες, βρουξισμό, παραλειπουργικές συνήθειες και ακόμη και διατροφικούς παράγοντες. Αν και ασυμπτωματική, η χειρουργική επέμβαση καθίσταται υποχρεωτική όταν υπάρχει αισθητική ενόχληση ή κατά τη διάρκεια της κατασκευής οδοντοστοιχίας στις νωδές φατνιακές ακρολοφίες.

ΛΕΞΕΙΣ ΚΛΕΙΔΙΑ: Εξοστώσεις, Στοματική κοιλότητα, Οστεοτομία, tori, οδοντοστοιχία, Στοματική Χειρουργική

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INTRODUCTION

Oral Buccal exostoses (OBEs) belong to a group of bony, benign, exophytic nodular and asymptomatic hamartomas that form as outgrowths of dense cortical bone. They usually involve the buccal or lingual cortical plates of the maxillary and/or the mandibular alveolus (Pynn BR, Kurys-Kos NS et al 1995). The maxilla presents a higher prevalence of 8% to 51% compared to the mandible which is 6%–32% (Kitajima S and Yasui A, 2005). Though oral exostosis presents as a benign lesion, malignant bone tumors, Gardner's syndrome should be taken into consideration in the differential diagnosis and be effectively ruled out. The etiology of tori has been long debated with authors suggesting the cause to be hereditary, alteration of bone metabolism, parafunctional habits, masticatory hyperfunction and edentulousness have been reported to alter alveolar bone metabolism (Jainkittivong A, Langlais RP et al, 2000, Homing GM, Cohen ME et al, 2000, Sathya K, Kanneppady SK et al, 2012).

Though, literature suggests the exostoses do not necessitate surgical intervention unless they interfere with speech, mastication, aesthetics and denture fabrication. Here we report a rare occurrence of buccal exostosis on the Maxillary alveolar ridge and its subsequent treatment.

CASE REPORT

A 56 year old male patient reported to our outpatient clinic with a chief complaint of swelling involving his upper gums for the past 6 months. He had noticed the swelling in his upper gingival region for the past 3 years but did not seek treatment as it was asymptomatic. His elder brother also had the same bony outgrowth in his gum. The patient had undergone multiple extraction of his upper teeth due to mobility a year back and the healing was apparently eventful. The patient had consulted with a dentist in his rural area for denture for the edentulous jaws but had migrated elsewhere during his treatment. On the day of the initial visit, intraoral examination revealed round, nodular growth over the maxillary buccal alveolar ridge. The overlying mucosa was normal in colour. The upper alveolar ridge was completely edentulous except for a root stump in relation to 15. On palpation, the swellings were round, firm, raised, non-tender [Figure 1]. Panoramic radiograph revealed a completely edentulous maxillary arch and a fixed partial denture in relation from 34 to 44 and 36 [Figure 2]. The Upper alveolar ridge had well-delineated radiopaque masses that were oval to oblong in their shape. Based on the above mentioned findings and radiography, a diagnosis of maxillary buccal exostosis was arrived. The patient was explained regarding the diagnosis and the treatment.



Fig. 1: Preoperative. clinical photograph.

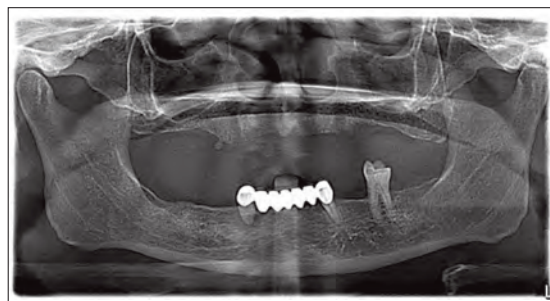


Fig. 2: Panoramic radiograph.



Fig. 3: Mid crestal incision placed.

The treatment planned was to remove the bony masses under local anesthesia. Following a mid crestal incision from the canine to 2nd molar region [Figure 3], a full thickness mucoperiosteal flap was raised to expose the bony masses underneath [Figure 4]. The bony growth was cut with a bone cutting carbide bur, No 702 SS white bur with copious amounts of saline irrigation. The bony growths were cut with rongeur forcep and the al-

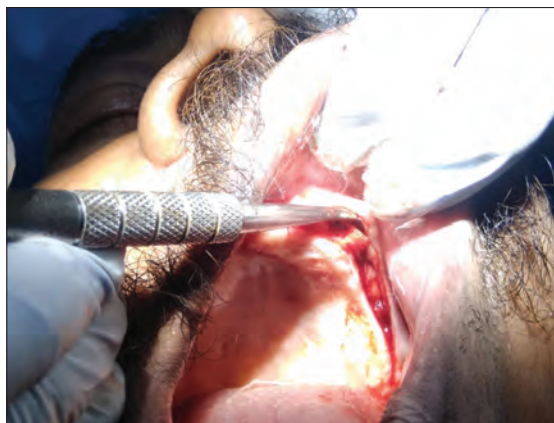


Fig. 4: Reflection of mid crestal flap.



Fig. 5: Splittung/removal of the protuberant exostoses.



Fig. 6: Simple interrupted sutures placed.

veolar housing was smoothed with bone file [Figure 5]. Following the bone reduction and leveling the surgical site was cleaned with a solution of povidone iodine and saline. The flap was then closed with interrupted sutures [Figure 6]. Antibiotics, analgesics and chlorhexidine (0.12%) mouthwash were prescribed. The healing was uneventful and in the review visit after 10 days, suture removal was done.

DISCUSSION

Oral exostoses manifest as bony overgrowth and arise from the buccal and lingual cortical plate of the mandible. The diagnosis can be made on radiographic and clinical features. Biopsy is done only when in the suspicion of a syndrome or to rule out early osteosarcomas and chondrosarcomas.

Oral exostoses are frequent with a prevalence rate of 1.4 to 61.7% (Suzuki M and Sakai T, 1960). The etiology has been speculated for decades ranging from genetic (King DR and Moore GE, 1976), environmental (masticatory stress) (Eggenn S and Natvig B, 1991), increased levels of Vitamin D, saltwater fish consumption (Antoniades DZ, Belazi M et al, 1998). A correlation between the exostoses and clenching of jaws, grinding of the teeth and bruxism has been demonstrated (AlZarea BK, 2016). Gorsky et al. supported environmental factors and genetic factors as a causation for the tori (Gorsky M, Raviv M, et al, 1996). In our case, the patient had a familial history of similar overgrowth in his family. About 8% to 51% of exostoses involve the maxilla and 6%–32%, the mandible (Bashaa S and Dutt SC, 2011, Bathla S, 2011). These lesions are found in about 3% of adults and are more common in males than in females. The patient in our case, was apparently healthy with no other symptoms or anomalies involving the skin or the bone. Panoramic radiographs revealed no impacted or unerupted teeth. They are usually asymptomatic and are self-limiting, but become troublesome when they interfere with speech, mastication, esthetics, denture fabrication or cause pain or discomfort to the patient, then conservative surgical excision can be performed.

Patients with multiple bony growths should be evaluated for syndromes such as fibrous dysplasia and Gardner syndrome where exostoses are a common finding. In Gardner's syndrome. Intestinal polyposis and cutaneous cysts or fibromas are the less prevalent features of Gardner's syndrome. In our case, the patient did not present with any systemic manifestations such as polyps. The clinical and radiographic findings were in line with features of oral exostoses. Although the condition was benign, care should be taken to rule out malignant bone tumors.

Treatment involves resective osseous surgery followed by gradualizing marginal bone in order to provide a sound, regular base for gingival tissue to follow. Saline irrigation should also be carried out during chiseling, since this generates heat (Puttaswamaiah RN, Galgali SR, et al, 2011). Cooling with a copious spray of sterile saline is necessary so that the temperature of the bone is not raised beyond 47°C. In order to provide a perfect seating for denture, the entire bony overgrowths were cut and smoothed out for proper approximation of the flaps. In cases where alveolar ridge lacks sufficient height and width, the bony exostoses become a rich source

of autogenous cortical bone for grafting which in turn would benefit a favorable seating of a future denture fabrication [14].

CONCLUSION

Exostosis are rare but when they are diagnosed, they arise exclusively on the facial surface of maxilla and should be differentiated from other disorders and be treated in the event of chronic irritation, denture fabrication and aesthetic concerns.

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Abstracts of the 31st National Conference of the Hellenic Association of Oral & Maxillofacial Surgery

NASAL RECONSTRUCTION AFTER SKIN CANCER SURGERY; PRESENTATION OF TREATMENT MODALITIES FOR MEDICALLY COMPROMISED PATIENTS

DOI: [10.54936/haoms231016](https://doi.org/10.54936/haoms231016)

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Abstract: Nasal reconstruction after surgical excision of non-melanoma skin cancer defects can be a challenging condition for every head and neck surgeon. There are certain technical difficulties that arise from the tissue deficit and the area that a locoregional flap can cover. What is more, patients with a compromised medical history cannot always receive a surgical management under general anaesthesia, limiting even more the defect reconstruction. The aim of the present study is to present two patients that were treated under local anaesthesia for advanced basal cell carcinomas of the nose, with modifications of paramedian and hemi-nasal flaps that provided excellent surgical and aesthetic outcomes, despite the limits of the surgical modality.

Keywords: nasal reconstruction, basal cell carcinoma, compromised patients.

IS ASEPTIC BONE NECROSIS A CAUSE FOR EARLY IMPLANT FAILURE IN PATIENTS WITH METAL ALLERGIES? – A CASE REPORT AND LITERATURE REVIEW

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Abstract: Given the widespread use of titanium and its alloys in dental implantology, implant failures will most likely arise and there will still remain gray areas with regard to the biology and physiology of the interaction of dental implant alloys and the host. Medical literature is abundant with reports of aseptic prosthetic loosening following arthroplasty that may be attributed to many reasons, yet the most important factor appears to be the periprosthetic osteolysis due to unbalanced homeostasis of bone formation and resorption. Although it was previously believed to be a simple mechanical complication resulting from the instability of the implant, it is now widely accepted that particulate implant debris induces local inflammation and osteolysis. The purpose of the current study is to report the atypical and unexpected early implant loss of a titanium implant in an otherwise healthy 60-year-old patient with a previously undiagnosed nickel, palladium, and cobalt allergy. After verification by Melisa test the patient was successfully treated with a ceramic implant. A literature review was performed, which demonstrated that there is abundant scientific evidence that suggests an established correlation between the different metal alloys and peri implant aseptic bone loosening leading to failure of implant osseointegration.

Keywords: Metal allergy, Melisa test, Zirconia implant

“STICKY TOOTH”. SOCKET PRESERVATION BY USING AN AUTOLOGOUS DENTINE GRAFT IN COMBINATION WITH PLASMA RICH FIBRIN. CASE REPORT AND A TWO YEARS FOLLOW UP

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Introduction: The present report describes the preservation of two post extraction sockets in the same 75 years old female patient by using an autologous dentin graft of the two extracted teeth and the clinical-radiographic evaluation after two years. Case presentation: the extracted teeth (33,43) were properly processed due to the protocol and device of Smart Dentin Grinder

of KometaBio company as an autologous dentin graft and mixed with the S-PRF (platelet rich fibrin) as a "sticky tooth" and filled the post extraction sockets for preservation. The sockets covered by PRF membranes and simple sutures were placed. The clinical and radiographic evaluation of the patient one and two years after the placement of the autologous dentin graft showed the stability and the complete osseointegration of the graft without any complication. Results: although the "sticky tooth" method is new, its efficiency in the socket preservation and the quality of the new bone formation is documented by the literature. The advantages of this method are: financial cost reduce, patient's acceptance, storage feasibility for future use of the dentin graft and better quality of new formed bone. The disadvantages compared to the usual method of placing other grafting materials are probably the purchasing cost of the device and the needed time for the preparation and production of the graft. Compared to the autologous bone graft it seems to have the same osseo-inductive and osseo-compatible features, without the trauma of the donor site, resulting as a promising grafting material.

CLINICAL APPLICATIONS OF SAFESCRAPER® IN MAXILLARY SINUS FLOOR ELEVATION AND RIDGE AUGMENTATION

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Introduction. Although there is a wide variety of bone grafting materials for the augmentation of the deficient alveolar ridge, autogenous bone is still considered to be the gold standard. There are various methods for harvesting autologous bone grafts. Among these, Safescraper® is conveniently used as a harvesting device of autogenous cortical bone in oral Implantology and reconstructive surgery, ensuring high volumes of grafting material with a minimally invasive and predictable procedure.

Purpose. The purpose of this presentation is to showcase the clinical applications of Safescraper® in various augmentation procedures and to review the existing literature for the evidence supporting its application in clinical practice.

Materials and Methods. In the presented cases, Safescraper® provided surface-derived autogenous bone graft deriving from the maxillary tuberosity, the zygo-

matic buttress, the lateral sinus wall, the pyriform aperture of the nose, the external oblique ridge and the mandibular symphysis. The collected autogenous bone has been mixed either with xenograft, or autologous venous blood, or platelet-rich fibrin and used in procedures such as:

- Maxillary sinus floor elevation,
- Reconstruction of periimplant defects,
- Reconstruction of alveolar ridge defects with onlay autogenous blocks, or bone rings,
- Ridge augmentations using resorbable collagen membranes, titanium-reinforced non-resorbable membranes or titanium meshes,
- Ridge augmentations using the Khoury technique.

Results. Satisfactory amounts of autogenous bone have been harvested in all cases. The bone harvesting procedure was swift, reliable and devoid of any complications.

Conclusion. Safescraper® is an extremely useful, cost-effective and minimally invasive device for collecting bone to adequately cover the needs in autogenous grafts everyday clinical practice.

A NOVEL CRESTAL PROTOCOL FOR THE APPLICATION OF DENATURED ALBUMIN IN MINIMALLY INVASIVE IMPLANTOLOGY AND SINUS PIEZOSURGERY - PRELIMINARY RESULTS OF A PILOT STUDY

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Abstract: Sinus-Floor-Elevation surgical procedure has been considered the dominant treatment protocol towards posterior maxillary atrophy and implant rehabilitation. Nevertheless, the high incidence of postoperative sinusitis and intra- and post-operative complications, such as Schneider's membrane perforation in 10-55% of patients, constitute it an invasive approach of high morbidity (mainly adopted for open-lateral-window version).

The innovative crestal approach termed PAC-Protocol (Piezo-Alb-CGF) comprises: a) Minimally invasive transcresal-flapped or flapless-approach, b) Piezo-surgery preparation by Sinus Intralift™ Technique (Satelec-France), c) Schneiderian membrane cavitation by hydrodynamic membrane detachment-elevation, d) CGF-matrix into the sinus, e) Denatured Albumin, mixed together with Autologous Concentrated Growth

Factors (CGF), an Autologous-Osseoinductive-Slow-Absorption-Graft (of 6 to 8 weeks) placed (within the interspace between membrane & sinus bone floor) as a scaffold, f) Bone grafting (optional), (g) Implantation, (h) Wound closure, evaluation for next 4-6 months postop. The clinical sample comprises five (5) patients (2 women – 3 men) with an average age of 55.6 years and an average residual-bone-height of 3.9 mm. A total of eight (8) implants were placed, showing sufficient to high primary stability without any complications. CBCT and panoramic x-rays also showed new bone formation and complete osseointegration.

The Albumin-CGF regenerative properties promote new bone formation, eliminate sinus surgery's high-risk and postoperative patient morbidity, and reduce the healing period (4-6 months) compared to the current surgical procedures. PAC-Protocol provides uniform-safe-hydraulic membrane lift and bi-cortical implant fixation due to piezo-surgery under-preparation of only 2.8mm in diameter, even in cases with a residual bone height below 6mm to avoid an open lateral-window approach.

Keywords: Regenerative PAC-Protocol, Sinus Floor Elevation, Flapless Piezosurgery, Denatured Albumin, Concentrated Growth Factors, Transcrestal Approach, AnyRidge

IMMUNOMODULATORY EFFECTS OF ND:YAG (1064 NM) AND DIODE LASER (810 NM) WAVELENGTHS TO LPS-CHALLENGED HUMAN GINGIVAL FIBROBLASTS

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Abstract: Objective: Human gingival fibroblasts (hGFs) are involved in inflammatory responses to bacteria by recognizing pathogen-associated molecular patterns. In search of host modulation strategies to increase LPS tolerance, Low level laser therapy (LLLTT) has been suggested as an alternative treatment that reduces periodontal tissue inflammation. In this study, we investigate whether 810 nm (diode) and 1064 nm (Nd:YAG) laser

wavelengths, modulate pro-inflammatory responses to LPS challenges in hGFs.

Design: Primary hGFs were challenged with Porphyromonas gingivalis LPS and irradiated with either Diode (810 nm) or with Nd:YAG (1064 nm) lasers. Cell cultures were examined for cell proliferation by MTT assay and IL-6 and IL-8 expression by qPCR at 24, 48 and 72 h. IL-6 and IL-8 protein levels were detected via ELISA.

Results: Naïve hGF populations irradiated with both Diode 810 nm and Nd:YAG 1064 nm lasers demonstrated cellular proliferation ($p < 0.05$), but LLLT did not affect cellular viability in LPS-challenged cells. IL-6 and IL-8 gene expression levels revealed significant anti-inflammatory effects of irradiation with both examined wave-lengths on hGFs challenged with P. gingivalis LPS. Protein levels of these cytokines were increased by LPS challenge. Treatment with LLLT inhibited this increase for both wavelengths evaluated in the study at a statistically significant level particularly for the first 48 h.

Conclusions: The present study demonstrates a modulatory effect of LLLT using both 810 nm diode and Nd:YAG 1064 nm lasers in gingival fibroblasts by decreasing the production of IL-6, IL-8 in response to LPS.

LATERAL CEPHALOMETRIC CHANGES AND STABILITY OF BSSO VERSUS IVRO FOR MANDIBULAR SETBACK SURGERY: A SYSTEMATIC REVIEW AND META-ANALYSIS.

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Abstract: The aim of this review is to examine the lateral cephalometric hard tissue changes and the stability of the end result of bilateral sagittal split osteotomy

(BSSO) and the intraoral vertical ramus osteotomy (IVRO) techniques for mandibular setback surgery. A systematic review of MEDLINE (via PubMed), Scopus, and Cochrane Library databases (last search date: August 22nd, 2021) was performed according to the PRISMA guidelines. Only studies that directly compare BSSO and IVRO were included. Random-effects model meta-analyses were performed. Ten studies, comprising a total of 331 patients, 169 patients undergoing BSSO and 162 patients undergoing IVRO were identified. No statistically significant differences were observed regarding the angular measurements: Sella/Nasion/B point (SNB) angle post-operatively (standardized mean difference [SMD]= 0.39, 95% Confidence Interval [CI]: [-0.15] – [0.94], $p=0.16$, $I^2=57.09\%$) and 1 year after surgery (SMD= 0.72, 95% CI: [-0.08] – [1.53], $p=0.08$, $I^2=80.83\%$), gonial angle post-operatively (SMD=0.45, 95% CI: [-0.26] – [1.15], $p=0.21$, $I^2=72.54\%$) and 1 year after surgery (SMD= 0.15, 95% CI: [-0.79] – [1.08], $p=0.75$, $I^2=91.56\%$), and MP angle 1 year after surgery (SMD=-0.46, 95% CI: [-1.64] – [0.72], $p=0.45$, $I^2=90.81\%$). In addition, no statistically significant differences were observed regarding the linear measurements, the relapse of the mandible as measured by the relapse of B point 1 year after surgery in the horizontal axis (SMD= 0.73, 95% CI: [-0.25] – [1.72], $p=0.15$, $I^2=86.43\%$) and vertically (SMD= -0.76, 95% CI: [-1.97] – [0.45], $p=0.22$, $I^2=90.09\%$). BSSO and IVRO have similar results in terms of SNB and gonial angle relapse post-operatively and 1 year after surgery, MP angle 1 year after surgery and horizontal and vertical relapse, measured in reference to B point 1 year after surgery.

Keywords: Orthognathic Surgery; BSSO; Bilateral sagittal split osteotomy; IVRO; intraoral vertical ramus osteotomy

BONE REGENERATION FOR DENTAL IMPLANT PLACEMENT: A 5-YEAR RETROSPECTIVE STUDY OF 358 CASES

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Introduction: Bone regeneration techniques are essential prior to dental implant placement in cases of mandibular or maxillary bone deficit. Depending on the area and the extent of bone loss, as well as the type of prosthetic rehabilitation to be applied, different bone regeneration techniques can be used.

Aim: The scope of this study is to analyze a series of patients that underwent mandibular or maxillary bone regeneration, in effort to highlight the most widely used techniques and their outcome.

Materials and Methods: 358 cases that underwent maxillary or mandibular bone regeneration in an oral and maxillofacial private clinic within the last 5 years are thoroughly analyzed retrospectively in terms of various parameters from their demographic and medical records, the type of bone regeneration technique that was applied and the final bone augmentation and implant osseointegration outcome.

Results: The most widely used technique for bone regeneration was GBR ($n=184$, 51.3%), followed by sinus floor elevation ($n=162$, 45.3%) and autologous bone block grafts ($n=12$, 3.4%). In 1 case of GBR with a non-resorbable membrane, membrane exposure was noted. In 5 cases of sinus lift, inflammation occurred. In one case with bone block grafts from the iliac crest, inflammation was presented a few weeks after surgery and one of the bone blocks was partially resorbed.

Conclusions: GBR with a resorbable membrane barrier and sinus lift appeared to have the most predictable outcomes in terms of mandibular or maxillary bone augmentation.

HAS THE COVID-19 PANDEMIC INFLUENCED THE MANAGEMENT OF HEAD AND NECK CANCER PATIENTS? A SINGLE-CENTRE STUDY

DOI: [10.54936/haoms23101](https://doi.org/10.54936/haoms23101)

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Objectives: The aim of the present study was to as-

sess whether the current COVID-19 pandemic affect the management of patients with head and neck cancer in a major tertiary hospital in Greece.

Materials and Methods: A retrospective comparative study was performed, assessing the hospitalization of patients with head and neck cancer in the university-affiliated Department of Oral and Maxillofacial Surgery. A 12-month analysis was performed, from March 2020 to February 2021, as the first COVID period. For comparative reasons, patients from March 2019 to February 2020 were recorded (pre-COVID period). All head and neck cancer patients operated during both periods were included in the study.

Results: In total, 168 patients were included. Of those, 88 were operated in the pre-COVID period and 80 in the COVID period ($p=0.53$). The mean age was similar in the two groups (67.3 years), with a slight male predominance in both groups. 40 patients with advance tumours (T3 and T4) were included in both groups respectively. Similar were the frequency of patients with lymph node disease.

Conclusions: Despite the surge of COVID-19 patients in our hospital and the difficulties that arised from the lack of human and technical resources, our Department managed to address to the head and neck cancer patients who presented during the COVID period. Qualitative data shows a similar rate of patients with head and neck cancer before and after the pandemic who were successfully operated in our Department.

Keywords: oral cancer, surgical management, COVID-19

PIEZOELECTRIC SURGERY VERSUS CONVENTIONAL ROTATORY BURS FOR SINUS LIFT SURGERY: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

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Abstract: Objective: The aim of this study is to compare

the outcomes after implementation of piezoelectric bone surgery versus conventional rotatory devices in sinus lift surgery.

Methods: A systematic review of MEDLINE (via PubMed), Scopus and Cochrane Library database was performed (last search date: 04 March 2022) according to the PRISMA guidelines. Only randomized controlled trials that directly compare the two techniques were included. Random-effects model meta-analysis were performed.

Results: Six studies, comprising a total of 140 patients/259 sinuses, 130 undergoing sinus lift with piezoelectric osteotomy device and 129 with conventional rotatory burs were identified and five of them were included in our meta-analysis. The two techniques were compared for intraoperative membrane perforation and operative time. No statistically significant difference was observed regarding membrane perforation (Standardized Mean Difference [SMD]: 0.87, 95% Confidence Interval [CI]: [0.33] – [2.28], $p=0.78$, $I^2=0.00\%$) and operative time (SMD: 0.76, 95% CI: [-0.09] – [1.60], $p=0.08$, $I^2=77.70\%$).

Conclusions: Data seem to agree that both piezoelectric osteotomy and osteotomy with conventional rotatory burs have similar results in membrane perforation and operative time when used for sinus lift surgery.

IMPLANT PLACEMENT WITH SIMULTANEOUS SINUS FLOOR ELEVATION IN THE PRESENCE OF A LARGE SINUS MUCOCLE: A CASE REPORT

DOI: [10.54936/haoms231o24](https://doi.org/10.54936/haoms231o24)

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Abstract: Following extractions, bone resorption is expected on edentulous sites. Depending on the size of the bony defect, various bone reconstruction techniques have been proven successful. Sinus lift is a common procedure used to overcome bony defects, in cases of posterior maxillary atrophy. Bone grafts, bone substitutes or both are used, with either a staged approach or simultaneous implant placement. Autologous bone grafts, allografts, xenografts, and alloplastic bone

substitutes can be utilized as bone filler materials. Moreover, non-resorbable membranes such as dPTFE and titanium mesh and bioresorbable such as polymeric and collagen membranes can be used as barrier membranes depending on the defect size and type.

Non odontogenic diseases such as acute/chronic rhinosinusitis, mucocoeles, pseudocysts, retention cysts, and odontogenic lesions constitute common maxillary sinus pathology. Such pathologies increase the risk of surgical complications and require special management before bone augmentation. Their presence obstructs sinus floor elevation, due to their weight and the possibility that their content may contaminate the grafts.

In the current case report, a 62-year-old female patient with a mucocoele in the right sinus was referred for treatment with implants. Surgical management of the mucocoele, sinus floor elevation and simultaneous implant placement was performed. During the elevation of the Schneiderian membrane, the content of the mucocoele was drained via a needle and a collagen membrane was applied on the perforation site. Sinus augmentation was successfully performed despite the sinus membrane perforation. A mixture of autologous bone, harvested with bone scrapers, and allograft in a 60:40 percentage was utilized. Two implants were placed simultaneously. An absorbable collagen membrane covered the bony window. No complications were encountered during a 2 years follow-up period of the implants function.

THYROGLOSSAL DUCT CYSTS, A CASE SERIES IN ORAL MAXILLOFACIAL SURGERY DEPARTMENT OF G. PAPANIKOLAOU HOSPITAL OF THESSALONIKI

DOI: [10.54936/haoms231o3](https://doi.org/10.54936/haoms231o3)

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Introduction: A thyroglossal duct cyst (TGDC) is the most frequent embryonic-origin cervical mass situated in the anterior of the neck. This anomaly occurs in approximately in 7% of people, usually in children. Mainly it presents as a mobile, non-tender, usually inferior to the hyoid bone (~75% of patients) painless swelling but it can be painful when accompanied by local inflammation. The recommended management for TGDC is the Sistrunk procedure, ensuring removal of the full length of the duct remnants by including the midportion of the hyoid bone.

Case series presentation: The aim of this paper is to present a case series of five patients who were operated in the OMFS department of Papanikolaou Hospital of Thessaloniki within 2.5 years (9/2019-2/2022). The patients were four males (80%) (mean age 50.5 years, outliers 36 and 71 years) and one (20%) 63 years old female. All of them presented with a mobile painless neck swelling and they had normal thyroid function. All patients underwent a surgical excision of thyroglossal cyst including the midportion of hyoid bone (Sistrunk procedure). None of them presented a recurrence.

Conclusion: A thyroglossal duct cyst (TGDC) although it is rare in adults as it is typically diagnosed and treated surgically in childhood, it can be complicated with inflammation. In any case, surgical resection and histological confirmation are required as cases of malignant lesion have been reported.

Keywords: thyroglossal duct cyst (TGDC), adult patients, surgical excision

THE EFFECT OF ORTHODONTIC TREATMENT ON THE PERIODONTAL TISSUES

DOI: [10.54936/haoms231p6](https://doi.org/10.54936/haoms231p6)

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Introduction: Reduced periodontal support is a challenge that clinicians often face during rehabilitation of compromised dentition. The close and intricate relationship between the periodontal tissues and the processes of tooth movement suggest that adjunct orthodontic therapy may play an important role in overcoming these problems. On the other hand, excessive movement of teeth beyond the anatomic boundaries of the alveolar process is commonly believed to contribute to further destruction of the periodontal tissues

Purpose: To highlight the importance the periodontium health and root of the tooth during the orthodontic treatment

Method: A literature review for the last five years was performed, with keywords such as: orthodontic appliances, healthy periodontium, recessions, systemic reviews.

Results: Root resorption can be observed during the

orthodontic treatment which can follow up to tooth mobility as well as losing the tooth due to the treatment

Conclusions: The correction of some orthodontic problems, such as excessively tipped molars, traumatic deep-bites and flared and spaced incisors, maybe particularly beneficial in periodontally compromised patients who are motivated to undergo treatment and demonstrate stable periodontal conditions. However, several factors may contribute to a harmful periodontal response including the use of heavy forces, inappropriate force systems and poor oral hygiene. Excessive and unrealistic tooth movements are also likely to result in reduced alveolar bone thickness, especially in patients with thin cortical plates. On the other hand, the response of the soft tissues is less predictable and likely to be influenced by multiple factors.

LARGE PERIOCLAR DEFECTS RECONSTRUCTION WITH AXIAL AND RANDOM PATTERN FLAPS. INDICATIONS, TECHNIQUE DESCRIPTION AND FOLLOW-UP ON OCCASION OF 4 CASES

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Abstract: Introduction: Large periocular defects have always been a reconstructive challenge in terms of viability, cosmesis and functionality. Their vicinity with important anatomical structures makes reconstruction difficult to plan and the surgeon should take into account several alternatives.

Aim: Our aim is the presentation of techniques performed on our department patients. Four intendedly different cases treated with respective flaps are documented preoperatively, postoperatively and in the follow-up period.

Material – Methods: 4 Patients (2 male and 2 female) with cutaneous malignancies concerning: the inner canthal ligament area (1), the nasal flank and lower eyelid (1) and the lower tarsal plate (2). 1 inferiorly based advancement nasolabial flap, 2 Mustardé flaps and 1 Tenzel flap were performed. The mean age of the patients was 85,75 y.o. (range from 77 to 96).

Results: All four patients had disease-free margins of excision and no recurrence at all. We avoided composite

approaches with concern to their age and general condition. No complications were mentioned (including necrosis of the flap, wound dehiscence or infection). The esthetic result is judged fair (1 patient), good (1 patient), very good (2 patients). In the follow-up period, one patient presented mild epiphora and another mild corneal exposure. One patient being planned to undergo a differed correction postponed his treatment.

Conclusion: Meticulously designed traditional flaps such as V-Y advancement flap, Mustardé flap and Tenzel flap can offer an acceptable outcome balanced between functionality and cosmetic result on the one hand and lessening complications on the other.

SUCCESSFUL PERIOPERATIVE MANAGEMENT OF HIGH-RISK ELDERLY PATIENTS WITH ADVANCED HEAD & NECK CANCER IN THE COVID ERA. OUR EXPERIENCE

DOI: [10.54936/haoms23105](https://doi.org/10.54936/haoms23105)

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Introduction: Elderly patients with advanced head and neck cancer undergoing major surgery are at high risk due to their co-morbidities and prolonged procedures. Thus, they often require admission in the ICU.

Purpose: We herein describe the perioperative management of elderly patients, with significant comorbidities, surgically treated for stage II-IV head and neck cancer with a specialized anesthesia protocol in the COVID-19 era.

Material - Method: In total, 11 consecutive patients (4 female, 7 male, mean age 74 years, ASA III-IV), with advanced cancer involving oral mucosa, salivary glands and metastatic skin cancer were treated in UHL between 3/2021 and 3/2022. Operation duration varied from 5 to 13 hours, as the extent of disease necessitated extirpation and reconstruction with free or regional flaps in most cases. Hence, an individualized and patient-centered approach was implemented, with the preanesthetic evaluation, the utilization of both an enhanced recovery (ERAS), specialized anesthesia protocol and the prompt postoperative care delivered by the anesthesia team.

Result: No intraoperative adverse events were reported. Admissions in ICU were obviated. One patient underwent neck exploration for bleeding control being treated with therapeutic doses of LMWH (grade IIIb Clavien-Dindo). One more patient required blood transfusion (grade II Clavien-Dindo). Donor site wound breakdown was recorded in 4 patients (grade IIIa Clavien-Dindo). Hospital length ranged from 5 to 14 days. 30-day mortality was 0%.

Conclusion: Good rapport between involved teams along with the implementation of an individualized perioperative approach of this patient cohort resulted in an uneventful outcome amid the COVID-19 pandemic.

BONE REGENERATION IN HEALTHY AND OSTEOPOROTIC CONDITIONS. PRECLINICAL EVIDENCE

DOI: [10.54936/haoms231p10](https://doi.org/10.54936/haoms231p10)

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Introduction: Osteoporosis is one of the most common skeletal disorders affecting a significant percentage of people worldwide. Research data suggested that systemic diseases such as osteoporosis could act as risk factors for bone regeneration, jeopardizing the healing process and thus the predictability of bone regenerative techniques on compromised patients. The use of titanium dental implants is considered a successful and largely predictable treatment option for partial/full edentulism. However, a prerequisite for the successful implant placement in the prosthodontically ideal driven position is a minimum amount of bone at the recipient site. It is well accepted that preclinical studies in experimental models simulating healthy and systemic conditions, are one of the most important stages in the research of new biomaterials and therapeutic modalities.

Aim and Methods: The aim of this study is to review the potential effect of osteoporosis on guided bone regeneration in healthy and osteoporotic-like conditions in preclinical models.

Material and Methods: Literature search was conducted in MEDLINE and PUBMED up to March 2022.

Results: Research data showed significant new bone apposition in the defect sites, although a trend for less bone formation of lower quality was observed in osteoporotic compared to healthy conditions.

Conclusion: Evidence suggested that low level of estrogen might negatively affect the biological process of bone grafts/substitutes integration. Preclinical studies provide the possibility of better understanding the underlying mechanism of bone regeneration in compromised conditions. It is important to emphasize that optimization of these models, simulating healthy and systemic conditions, is important for future research.

HAS THE COVID-19 PANDEMIC INFLUENCED THE NUMBER OF PATIENTS WITH CERVICOFACIAL INFECTIONS? A SINGLE CENTRE STUDY

DOI: [10.54936/haoms231o6](https://doi.org/10.54936/haoms231o6)

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Objectives: The aim of the present study was to assess whether the current COVID-19 pandemic affect the prevalence of patients with cervicofacial infections in a major tertiary hospital in Greece.

Materials and Methods: A retrospective comparative study was performed, assessing the hospitalization of patients with cervicofacial infections in a university-affiliated Department of Oral and Maxillofacial Surgery. Patients were recorded in two periods, the COVID period, from March 2020 to February 2021, and the pre-COVID period, from March 2019 to February 2020. All patients admitted with any form of cervicofacial infection during these periods were included in the study.

Results: In total, 341 patients were recorded. Of those, 151 were admitted in the pre-COVID period and 190 in the COVID period ($P=0.03$). The mean age was 45.3 years in total. A slight male predominance was observed (54.7% males). Mean length of stay was 3.42 days in the COVID period, whereas it was 2.5 in the pre-COVID period. 23 patients had severe deep neck infections the COVID period, requiring admittance to the intensive care unit, compared to the 3 patients in the previous period ($P<0.001$).

Conclusions: The high surge of patients with cervicofacial infections with increased severity during the COVID period is merely attributed to the inability of these patients to attend primary care facilities and prevent the infections in an initial stage in order to minimize hospitalizations.

Keywords: cervicofacial infections, deep neck infections, odontogenic abscesses, COVID-19

CLINICAL APPLICATIONS OF SAFESCRAPER® IN MAXILLARY SINUS FLOOR ELEVATION AND RIDGE AUGMENTATION

DOI: [10.54936/haoms231o20](https://doi.org/10.54936/haoms231o20)

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Introduction: Although there is a wide variety of bone grafting materials for the augmentation of the deficient alveolar ridge, autogenous bone is still considered to be the gold standard. There are various methods for harvesting autologous bone grafts. Among these, Safescraper® is conveniently used as a harvesting device of autogenous cortical bone in oral Implantology and reconstructive surgery, ensuring high volumes of grafting material with a minimally invasive and predictable procedure.

Purpose: The purpose of this presentation is to showcase the clinical applications of Safescraper® in various augmentation procedures and to review the existing literature for the evidence supporting its application in clinical practice.

Materials and Methods: In the presented cases, Safescraper® provided surface-derived autogenous bone graft deriving from the maxillary tuberosity, the zygomatic buttress, the lateral sinus wall, the pyriform aperture of the nose, the external oblique ridge and the mandibular symphysis. The collected autogenous bone has been mixed either with xenograft, or autologous venous blood, or platelet-rich fibrin and used in procedures such as:

- Maxillary sinus floor elevation,
- Reconstruction of periimplant defects,
- Reconstruction of alveolar ridge defects with onlay autogenous blocks, or bone rings,
- Ridge augmentations using resorbable collagen membranes, titanium-reinforced non-resorbable membranes or titanium meshes,
- Ridge augmentations using the Khoury technique.

Results: Satisfactory amounts of autogenous bone have been harvested in all cases. The bone harvesting procedure was swift, reliable and devoid of any complications.

Conclusion: Safescraper® is an extremely useful, cost-effective and minimally invasive device for collecting bone to adequately cover the needs in autogenous grafts everyday clinical practice.

HAS THE COVID-19 PANDEMIC AFFECTED THE PREVALENCE OF MAXILLOFACIAL FRACTURES? A SINGLE CENTRE STUDY

DOI: [10.54936/haoms231o7](https://doi.org/10.54936/haoms231o7)

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Objectives: The aim of the present study was to assess whether the current COVID-19 pandemic affect the prevalence of patients with maxillofacial fractures in a major tertiary hospital in Greece.

Materials and Methods: A retrospective comparative study was performed, assessing the hospitalization of patients with maxillofacial fractures in a university-affiliated Department of Oral and Maxillofacial Surgery. Patients were recorded from March 2020 and for 18 months (COVID period). For comparative reasons, a similar period was set, starting from September 2018 to February 2020 (pre-COVID period). All patients admitted with any form of maxillofacial fracture during these periods were included in the study.

Results: 301 patients were included in the study, 158 in the pre-COVID period and 143 in the COVID period. The mean age was 37.8 years in total. A male predominance was observed (81.7% males). Most fractures concerned the mandible in both periods (61.4% and 53.1% respectively). Panfacial fractures were recorded in 8.2% in patients pre-COVID and 6.9% in patients post-COVID. Concomitant injuries were observed in 20.6% of patients pre-COVID and 8.3% post-COVID, and ICU hospitalization was recorded in 8.9% and 4.2% respectively. Delay in definitive treatment was recorded in 1.2% and 14% of patients respectively.

Conclusions: Despite the relative stability of the prevalence of patients with maxillofacial fractures, the severity of those seems lower in the pandemic period. Higher delays until definitive treatment were recorded, as expected by the reduction of available human and technical resources during the pandemic.

Keywords: maxillofacial fractures, COVID-19

CERVICAL VAGUS NERVE SCHWANNOMA IN AN ADULT PATIENT: A CASE REPORT

DOI: [10.54936/haoms231o8](https://doi.org/10.54936/haoms231o8)

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Introduction: Schwannomas are slow growing, benign, encapsulated nerve sheath tumors that derive from Schwann cells and are usually asymptomatic. Most common age of presentation is between 20 to 50 years of age and no difference in incidence among genders is noted. Schwannomas that frequently present in the head and neck region are extracranial schwannomas with an incidence of 25%-45%. Although benign, there is an 8-13.9% possibility of malignant change.

Case presentation: A 41-year-old male patient presented with a history of a neck mass in the right lateral neck region, which was present for the last 8 years. However the patient began to experience some non-specific symptoms during the last year. The main complaints were mild hoarseness of voice, episodes of bradycardia and syncope. The patient underwent Magnetic Resonance Imaging (MRI) of the neck. The MRI demonstrated a well-circumscribed, highly-vascularized mass with dimensions 3,5 x 3,5 x 1,6 cm in the right lateral neck region. The patient underwent complete surgical removal of the lesion with dissection and preservation of the vital anatomic structures. 12 months later he remains asymptomatic with no signs of recurrence.

Conclusions: Vagus nerve schwannomas are rare occurring neck masses with unusual and atypical symptoms. In the case of vagus nerve schwannomas, patients occasionally present with hoarseness and a specific pathognomonic symptom of paroxysmal cough upon cervical mass palpation. Imaging is a very helpful instrument for the diagnosis and surgical planning. Complete tumor removal is the treatment of choice, as it is associated with lower recurrence rates.

A RARE CASE OF CERVICAL CYSTIC LYMPHANGIOMA IN AN ADULT PATIENT

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Introduction: Lymphangioma of the neck is a rare benign tumour arising from the cervical lymphatic vessels. Three morphological types are described: capillary, cavernous and cystic. Almost 90% of these lesions are diagnosed before the age of two years old and a small number of cases of lymphangiomas are reported in adult patients. We present the diagnostic and treatment approach of a cervical cystic lymphangioma (CL) in an adult male.

Case presentation: An 85-year-old male was referred to the outpatient clinic of the Department of Oral and Maxillofacial Surgery with a history of a left-sided neck mass. The mass has been present for the last 15 years, but its size had increased during the last three months. The main complaints were a rapid increase in size and mild hoarseness of voice. FNAC was performed and 48cc of bloody fluid were aspirated and CL was suggested as a possible diagnosis. The patient underwent complete surgical excision of the lesion with dissection and preservation of the vital anatomic structures. He remains asymptomatic 1 year later with no signs of recurrence.

Conclusions: Although rare, CL should be included in the differential diagnosis of cervical masses. Diagnosis is based on medical history, US of the neck, MRI, CECT and FNAC. Total surgical excision of the mass is the treatment of choice. In our case, the patient was mainly asymptomatic except for mild hoarseness of voice. FNAC suggested the lymphovascular origin of the lesion and the MRI depicted a well-defined lobulated mass that mildly deviated the trachea. Total excision of the mass was accomplished. He remains asymptomatic 1 year later.

PTERYGOID PLATE IMPLANTS FOR THE REHABILITATION OF THE ATROPHIC POSTERIOR MAXILLA: SURGICAL TECHNIQUE AND REPORT OF CASES

DOI: [10.54936/haoms23109](https://doi.org/10.54936/haoms23109)

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Introduction: The rehabilitation of the atrophic posterior maxilla with dental implants is a challenging procedure due to various limitations. Low bone quality and quantity, the anatomy of the maxillary sinus and inaccessibility to the area, are the most frequent obstacles that surgeons have to overcome. Several surgical techniques have been used as a solution to this problem, such as sinus lift augmentation procedures with bone graft, guided bone regeneration, tilted implants, short implants, zygomatic implants and pterygoid plate implants.

This case report presents the placement of implants in the pterygomaxillary region, aiming to restore the partially edentulous posterior maxilla in two patients, without any additional surgical procedures. The aim was to place a fixed dental prosthesis using a minimum invasive surgical protocol. The usual surgical technique had to be modified because of the anatomical limits encountered in that region, as the quality of bone and the extent of the maxillary sinus. A 30 years follow up is presented.

Conclusion: In view of the clinical case follow up and the literature review that only minor surgical complications have been reported, it is concluded that pterygoid implants are a valid and safe solution for the rehabilitation of the edentulous posterior maxilla avoiding more invasive surgical procedures.

HYBRID VERRUCUS CARCINOMA OF THE ORAL CAVITY: A CASE REPORT AND REVIEW OF THE LITERATURE

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Introduction: Verrucous carcinoma (VC) of the oral mucosa is a rare type of non-metastatic, low-grade and well differentiated squamous cell carcinoma. The neoplasm is typically presented with a slow and superficial growth in elderly males. Various factors are known to implicate in its pathogenesis and affect the progression and prognosis of the neoplasm. When invasive atypical areas are present, VC is then described as hybrid verrucous carcinoma (HVC).

Case Report: A 55-year-old woman was referred with an elevated leukoplakic verrucous lesion on the dorsal surface of the tongue, measuring 2 cm at its maximum diameter. The patient had been a smoker for ten years with no pertinent past medical history. An incisional biopsy had already been performed a month before referral with the histopathology report of an atypical verrucous papillary lesion. An excisional biopsy was performed at the referral and the lesion was resected with a spindle-shaped surgical incision circumcising the neoplasm within safety margins. The final histopathology report made the diagnosis of VC with multiple foci of microinvasive squamous cell carcinoma (verrucous carcinoma – hybrid type).

Conclusion: Differential diagnosis of VC still remains a challenge and various clinical, histopathological and immunohistochemical parameters should be considered. The treatment of choice for VC is surgical excision within safety margins. A clinical follow-up should then be scheduled for these patients and they must remain alert for any changes of the oral mucosa for the future.

A COMPARISON OF GBR MEMBRANES

DOI: [10.54936/haoms231011](https://doi.org/10.54936/haoms231011)

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Introduction: Guided bone regeneration has become common practice among surgeons because it gives them the opportunity to place implants in bone defects or absorbed alveolar ridges. This fact raises the question which membrane should one use to achieve the best results.

Purpose and Methods: The aim of this study is to present the most recent data around GBR membranes. The existing types of membranes will be compared for their ability to facilitate bone regeneration, their biocompatibility, and their clinical complications. Research for this study was done by evaluating papers of the last decade from the following online databases: PubMed, Medline, and Google Scholar. Finally, selected clinical cases will be presented.

Results: Membranes are divided in two main categories resorbable (collagen, synthetic) and non-resorbable (ePTFE, Ti reinforced). It is quite challenging to compare clinical trials because they use different parameters for comparison such as selection criteria of the patients, the type of defect to be treated, the way of executing the treatment, the duration, the materials used and the evaluation criteria. As far as bone regeneration is concerned there seem to be no significant differences in bone level and density of newly formed bone between different types of membranes when used in combination with bone grafts. However, non-resorbable membranes are more likely to cause tissue dehiscence, become exposed to the oral environment and subsequently become infected. Also, there are new types of membranes being studied which aim to play an active role in bone regeneration with embedded active ingredients, but more research needs to be done.

Conclusions: According to the most recent protocols the combination of bone grafts and collagen membranes is selected in most cases because it has less clinical complications.

OSSEODENSIFICATION. A PROMISING NEW TECHNIQUE

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Introduction: The technique of Osseodensification has recently appeared in clinical practice by Salah Huwais for the placement of dental implants. This technique relies on the use of special burs (Versah), which in contrast to the conventional drilling techniques these burs do not excavate bone.

Purpose: To highlight the importance of Osseodensification in clinical practice.

Method: A literature review for the last five years was performed, with keywords such as: Implant stability, osseodensification, osteotomy.

Results: During osteotomy, unlike conventional implant drills, the bone is advanced into the implant shaft instead of being removed. Versah burs allow for more accurate osteotomy preparation and reduce any potential drilling vibrations. With these special burs we have the ability to push the bone towards the base of the implant lumen. Finally, a closed sinus lift can be achieved by lifting the sinus membrane up to 3 mm without the use of a foreign graft.

Conclusions: Osseodensification has helped the clinician to achieve the maximum possible primary stability during the placement of the implant. The fact is, however, that there is a lack of sufficient documentation. It is therefore necessary to carry out more clinical studies, so as to lead to safer conclusions about the long-term results of the above technique.

PERFORATION OF SINUS MEMBRANE DURING SINUS FLOOR ELEVATION: REPAIR WITH COLLAGEN MEMBRANE AND METHOD RELIABILITY

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Introduction: Sinus floor elevation (sinus lift) constitutes one of the most predictable methods of bone augmentation in the maxillary posterior region. However sinus membrane perforation during this surgical procedure may be an aggravating factor for the final bone augmentation outcome, thus a number of techniques have been introduced for immediate sinus membrane repair.

Aim: The scope of this scientific work is to present the application of collagen membrane surgical technique, which is a widely used technique for sinus membrane

repair after sinus membrane perforation when performing sinus lift. Moreover, the outcome of this surgical technique in terms of bone augmentation and implant osseointegration are also presented, as well as an extensive literature review on this subject.

Materials and Methods: 106 cases with sinus floor elevation were performed within a period of 3 years, accounting for a series of 12 cases with sinus membrane perforation. In all 12 cases sinus membrane repair took place with the application of a collagen membrane.

Results: In 3 out of 106 cases of sinus floor elevation inflammation of the involved maxillary sinus was noted but none of these 3 cases was implicated with sinus membrane perforation.

Conclusions: Taking into account the data of the present work, as well as an extensive literature review on this subject, immediate repair with collagen membrane after sinus membrane perforation when performing sinus lift, is a very effective technique for maxillary bone augmentation.

“LIP SHAVE” TECHNIQUE: LITERATURE REVIEW AND CASE PRESENTATION

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Introduction: Actinic cheilitis is a pre-malignant condition, mostly located on the lower lip, and can progress to squamous cell carcinoma, with higher tendency for metastasis than cutaneous squamous cell carcinoma. Several methods of treatment have been proposed, like electrosurgery and excision of the actinic damage via laser treatment. However, all methods have limitations. On the other hand, the surgical technique known as “lip shave”, achieves complete removal of the lesion, and promotes the reconstruction of the vermilion border.

Case presentation: A 65-years old patient was referred to our Department for treatment of a lesion extended to the whole lower lip, diagnosed as actinic cheilitis after partial biopsy and histopathological examination. Under

local anesthesia the outlined lesion was entirely excised, while the lip is was firmly immobilised with the thumb. After the mucosa was first elevated by sharp dissection from one corner, it was then conveniently removed by curved, pointed scissors down to the muscular layer. After securing haemostasis, three “key sutures” were first placed, in order to achieve an even symmetrical closure. The final closure of the wound was achieved with continuous locking suture.

Conclusion: The “lip shave” is a non-deforming plastic and reconstructive procedure of great value for prophylaxis and treatment of lip cancer, and for cosmetic correction of certain congenital, neoplastic, and traumatic lip deformities.

FOUNDATION OF THE OSSEOINTERGRADED PROSTHESIS ON THE COMPROMISED REMAINING ALVEOLAR BONE

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Abstract: Tooth loss is inevitably followed by relevant bone loss. Careful volumetric evaluation of the residual bone is the initial step in treatment planning the implant supported reconstruction. Utilizing the existing limited volume of the remaining bone for supporting the osseointegrated prosthesis, may reduce the need for additional preparatory bone augmentation surgical procedures. As long as the preoperative soft-tissue architecture of a periodontally or endodontically terminal tooth in the esthetic zone is considered acceptable, the flapless immediate extraction implant placement can result to the preservation of the original emergence architecture. The primary stability is secured by inserting the implant in the remaining sound bone by avoiding the defect area. Additional osseo-conductive inorganic substance is applied in the defect area to provide adequate mechanical and biologic soft-tissue support.

Rehabilitation of the atrophic posterior maxilla can be accomplished by implant insertion simultaneously with closed or opened sinus floor elevation. Moreover, tuberosity/pterygoid Implants have also been applied as a successful alternative approach. On the other hand, reconstruction of the posterior atrophic mandible can be achieved by avoiding the mandibular nerve by deviating the implant insertion lingually or buccally on the cortical bone of the internal or external oblique line.

CONFLICT OF COVID-19 PANDEMIC RESTRICTIONS IN THE FIRST DIAGNOSES OF SKIN CANCER IN 2020: A SINGLE-CENTRE STUDY

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Objectives: The data results of the skin cancer treatment institute aim to approach the affect of COVID-19 pandemic in the first detection of new skin cancer cases in 2020.

Materials and Methods: The study is retrospective and compares the data between 2020 and the expected incidence of the same year (mean of the years 2016-2019) of the new diagnosed cases of skin cancer which concerns squamous cell carcinomas (SCC), basal cell carcinomas (BCC), and melanomas.

Results: The results of the institutional data disclose the expected concern related to COVID-19 pandemic, with a reduction of 30.1% new skin cancer cases. The decrease of first-diagnosed SCC, BCC, and melanomas compared to expected incidence is respectively 44.8%, 22.3% and 36.3%. The mean age of the patients' skin cancer first diagnosis is impressively lower and similarly the diagnosis at stages 0 and IA shows a same course. On the contrary, skin cancer at stages IIC, III and IV that were first detected, confirmed to be much higher.

Conclusions: The study data revealed that the COVID-19 pandemic effluent led to skin cancer diagnosis delay. It is highly recommended to the authorities and the national health system support the early skin cancer diagnosis of the population.

Keywords: Skin cancer diagnosis, melanoma diagnosis, covid-19 pandemic

MARSUPIALIZATION OF LARGE MANDIBULAR RESIDUAL CYSTS. TWO CASE REPORTS

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Introduction: Large residual cysts are relatively rare inflammatory cysts of the jaws. They derive from radicular cysts that had not been completely removed after dental extraction. In some cases, these lesions can grow large without any symptoms and they are discovered as incidental radiographic findings. Marsupialization is an alternative treatment for large cysts, avoiding significant complications such as nerve injury, jaw fracture, sinus or nasal perforation which can occur from curettage during enucleation.

Case presentation: We present two different cases of male patients with mandibular residual cysts, who were referred to our department. Both patients presented with swelling and pyorrhea. The radiological examination revealed large well-defined lesions that had absorbed extensive jaw sites. The localization of both cysts was significantly close to the inferior alveolar nerve. Marsupialization and acrylic resin obturator placement was performed in both cases. The follow up period of 18 months from surgery is presented.

Conclusion: In conclusion, marsupialization is a conservative, efficient surgical technique that promotes bone healing and the shrinkage of the existing lesion.

SUBSEQUENT THERAPEUTIC TREATMENT OF MEMBRANE EXPOSURE AFTER GBR IN THE ANTERIOR MAXILLAE: A CASE REPORT

DOI: [10.54936/haoms231p4](https://doi.org/10.54936/haoms231p4)

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Abstract: Guided bone regeneration (GBR) aims to augment the areas with osseous defects in compromised dentition. Bone grafting materials, barrier membranes

and growth factor therapies have been utilized to minimize the dimensional changes in the bone morphology and architecture occurring postextraction. GBR procedures are performed using materials such as autografts, allografts, xenografts, or synthetic bone grafts or combination. Barrier membranes are used to maintain the space and prevent the infiltration of fibrous tissue. Such membranes are: non-resorbable PTFE membranes, collagen-based absorbable membranes, synthetic absorbable membranes, titanium mesh membranes and PRF. In this case report, a 67 years-old lady was referred for implant rehabilitation in the right anterior maxilla. The reason of tooth loss was vertical root fracture. GBR was performed at the area of #12 and #13, due to severe bone defect. A combination of 50:50 allograft and xenograft bone grafting material, non-resorbable titanium membrane and PRF membranes was used. One-month post-op exposure of the membrane was noticed. At this point, it is important to be mentioned that on the day of the surgery primary closure was not achieved at the area #13, due to lack of soft tissue thickness. Replacement of the first membrane by a collagen based absorbable one and tension free suturing was performed. One month after the second intervention, soft and hard tissue healing was completed unhindered.

ESTIMATION OF RECURRENCE RATES WITH OFF-LABEL USE OF 5% IMIQUIMOD AS AN ADJUVANT THERAPY AFTER SURGERY OR AS A MONOTHERAPY IN PATIENTS WITH LENTIGO MALIGNA

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Objectives: The aim of this paper is to present the experience of off-label application and possible decrease of recurrence rates in patients with lentigo maligna, when treated only with 5% imiquimod or imiquimod 5% after surgical excision in clinical narrow margins (<5mm) or wider margins (≥5mm).

Materials and Methods: A multicenter analysis was performed in 7 European centers and n=149 patients were included in three groups a) those with adjuvant application of imiquimod after surgical excision in his-

topathologically clear margins (narrow <5mm) (group 1a) or (wider ≥5mm) (group 1b), b) those with adjuvant application but with histopathologically involved margins (group 2) c) those who received monotherapy with imiquimod (group 3). In all patients was applied 5% imiquimod cream, 7 days/week, for 6-13 weeks.

Results: The recurrence rate in group 1b and group 1a were (6.2% to 5.5% respectively). Thus, the application of imiquimod before or after conventional surgery to narrow margins might result in acceptable recurrence rates, possibly comparable to those achieved with surgical techniques involving complete margin assessment, such as Mohs micrographic surgery, but this hypothesis should be assessed by a randomized trial. The recurrence rate in group 2 was 9.1% at a mean follow-up of 34 months while in group 3 imiquimod monotherapy resulted in complete clinical response in 71.4% of treated patients.

Conclusions: In conclusion by this study is supported surgery as the primary treatment in operable patients with lentigo maligna. In any case the experience by application of Imiquimod in combination with conservative surgery is encouraging.

Keywords: lentigo maligna, imiquimod, adjuvant therapy

PERI-IMPLANTITIS IN DENTAL IMPLANTS PLACED IN AUGMENTED BONE: A CASE REPORT

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Abstract: Introduction: Periimplantitis is a disease most commonly affecting dental implants placed in patients with a history of periodontal disease. It is still questionable if native bone is more resistant to periimplantitis than regenerated bone.

Case presentation: A case of dental implant placed in regenerated bone in a patient with treated periodontal disease is presented. The patient is a male healthy adult, who lost the tooth #11 due to advanced periodontal

disease. 4 weeks after tooth extraction, the alveolar ridge was augmented and the dental implant was placed 5 months after the guided bone regeneration. The dental implant was restored 3 months after placement. The patient was compliant with the periodontal recall appointments for 2 years. After a personal crisis, the patient neglected his oral hygiene and failed to follow his periodontal recall visits for 7 years. When he finally presented for a dental examination, the dental implant #11 showed significant bone loss and periodontal tissue inflammation. The site was treated conservatively and surgically treated and augmented-with a combination of xenograft, allograft and a collagen membrane-in order to achieve re-osseintegration.

Conclusions: Patients with periodontal disease are at high risk for peri-implantitis. Regular recall visits are essential for maintenance of dental tooth and implant health, since treatment of peri-implantitis is a very demanding procedure.

ROOT COVERAGE TECHNIQUES FOR GUM RECESSION

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Introduction: Gingival recession, also known as receding gums, is the exposure in the roots of the teeth caused by a loss of gum tissue and/or retraction of the gingival margin from the crown of the teeth. The aetiology of the condition is multifactorial but is commonly associated with underlying alveolar morphology, tooth brushing, mechanical trauma and periodontal disease

Purpose: To highlight the importance of covering gingival recessions and the presentation of various surgical techniques of covering receding gums

Method: A review of the literature of the last five years was performed, with keywords such as: gingival recession, surgical flaps, root coverage techniques.

Results: Main reasons of covering gingival recessions are thermal hyperesthesia and esthetics of the oral cavity. The root coverage can be achieved by using free gingival graft tissue from the hard palate of the patient or biomaterials such as bovine and synthetic material.

Conclusions: The choice of the right technique for covering the gum recession plays an important role in the

treatment plan. However, the surgeon should be experienced and make all the proper treatment planning choices for the esthetic result.

“THUNDER – LIKE” PLASTY FOR TWIN NASAL TIP DEFECTS. TECHNIQUE DESCRIPTION AND INDICATIONS

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Introduction: Reconstructive approaches to nasal tip defects are always challenging to perform, depending on the age of the patient, shape of the nose, local anatomy and adjacent structures. Many techniques have been described, each one with its advantages and limitations.

Aim: Our aim is a new technique description designed for the reconstruction of twin defects of the nasal tip. The decision-making, the step-by-step description, and its application to a male patient are explained in detail.

Material - Method: A 61 years old male patient was referred to our department with two benign lesions of the nasal tip. Due to their proximity, a simultaneous excision was planned in a way that allowed both adequate excision and minor defect dimensions. The remaining defect was reconstructed with a combination of 2 rotation flaps and 2 V-Y plasties.

Results: Very good skin match (color and texture). Suture lines are barely detectable because they are buried in the anatomical border between the nasal tip and the alar area. No consequences for the alar shape or the columella are mentioned (deviation, stricture, narrowing or flattening respectively).

Conclusion: This technique has been influenced by the “East – West plasty”. Its innovative elements are: 1. The upper triangle hereafter contains the second lesion. 2. The V-Y plasties we intendedly added on top of each rotation flap limit loss of length resulting in well aligned scars. The technique is advisable for benign lesions, in situ malignancies or for centers performing Mohs micrographic surgery.

GUIDED IMPLANT PLACEMENT ON EDENTULOUS MAXILLA TO AVOID DAMAGE TO ACCESSORY BRANCHES OF THE CANALIS SINUOSUS: A CASE REPORT

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Abstract: Introduction: The canalis sinuosus (CS) is an anatomical structure arising from the infraorbital nerve. It is a neuromuscular canal, carrying the anterior superior alveolar nerve and vessels. Rarely, accessory bilateral branches of CS are observed on cone beam computed tomography (CBCT) images, during implant planning, in the anterior maxilla region. It is an important anatomical structure often overlooked by surgeons and not visible by conventional radiographs.

Case report: A case of anatomical variation in the CS with accessory branches was detected after a CBCT was performed on an edentulous 72 years old male patient pre operatively for implant placement. On the examination of the axial slices of the CBCT, additional foramina lateral and anterior to the nasopalatine foramen were observed. By tracing into the bone from these foramina, it was observed that these accessory canals communicate with the CS. Implant planning was performed, respecting these canals and a surgical guide was fabricated, using the dual scan protocol from the patient's denture. A post-op CBCT was performed to determine the accuracy of our guide and the position of the implants. No post-op complications were observed.

Conclusion: Several cases of intractable pain following implant placement in the anterior maxilla have been reported. Damage to the CS and its accessory canals may be the cause. Knowledge of these anatomical variations is of great importance and the use of guided implant placement is a useful tool to avoid iatrogenic surgical trauma and post-op surgical distress to the patient.

EVALUATING THE MINIMAL CLINICALLY IMPORTANT DIFFERENCES IN QUALITY-OF-LIFE QUESTIONNAIRES EORTC QLQ-C30 AND QLQ-HN35, IN HEAD AND NECK CANCER PATIENTS ACCORDING TO THE EUROPEAN ORGANIZATION FOR RESEARCH AND TREATMENT OF CANCER.

DOI: [10.54936/haoms231p11](https://doi.org/10.54936/haoms231p11)

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Objective: Specific and certified quality of life (QoL) Instruments, regarding the EORTC QLQ-C30 and EORTC QLQ-HN35 are used to evaluate the scale of change that is clinically significant in a number of diagnosed and treated head and neck cancer patients. The purpose of the study was to calculate both the statistical and the clinical impact that the disease and the treatment had, in the life of those patients.

Materials and Methods: The patients answered the EORTC QLQ-C30 and EORTC QLQ-HN35 questionnaires at baseline and in a two-month follow-up period. The calculation of the Minimal clinically important differences (MCID) was feasible via anchor and distribution-based methods both for deterioration and improvement. The anchor used for determining the meaningful change was the Karnofsky Performance (KPS).

Results: In patients that deteriorated, the symptoms that reached statistical significant meaningful change were greater. Using the KPS anchor, results for meaningful change values in a range from 7.2 (physical functioning) to 16.7 units (Global Health Status) for deterioration were recorded, whereas for improvement, the values ranged from 1.6 (role functioning) to 6.6 units (Global Health Status). For both Instruments used, the distribution-based estimates were as good as 0.5 SD.

Conclusion: The EORTC QLQ-C30 and QLQ-HN35 questionnaires and especially the significant changes on them are important tools when used to evaluate the effect and the outcome of the treatment methods in QoL and also for follow-up reasons. MCIDs are also useful for sample size determination and clinical trial purposes.

Keywords: head and neck cancer, quality of life questionnaires

AUTOLOGOUS BONE GRAFTS – INDICATIONS AND RESTRICTIONS

DOI: [10.54936/haoms231p12](https://doi.org/10.54936/haoms231p12)

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Introduction: Autologous bone grafts and especially intraoral autografts have been used with increasing success for centuries and remain in common use today. They involve the transport of bone from an intraoral donor site to a different intraoral site, in the same patient.

Aim and method: The aim of this poster is to introduce the intraoral autogenous bone grafts and evaluate the indications and restrictions of these techniques.

Material and method: Autografts are commonly obtained from intraoral sites such as: symphysis mandible, ramus mandible, anterior sinus wall and lateral zygomatic buttress. Autograft bone harvested from mandibular ramus is used when the requiring augmentation is less than 4mm in thickness and span a maximum of four teeth. Although this graft presents a risk of damage to the inferior alveolar nerve, it is associated with secondary complications compared to other intraoral sites. Generally, indications for bone augmentation procedures are determined by means of the following parameters: a) Presence of severe alveolar ridge atrophy rated classes IV and V according to the Cawood and Howell classification b) Residual maxillary bone less than 5 mm from the alveolar crest to the sinus floor.

Results: Even when major augmentation procedures with autografts had to be carried out for severely resorbed jaws, success rates exceeding 95% have been achieved.

Conclusion: Although, autografts occasionally have significant drawbacks, such as increased postoperative morbidity, the need of secondary surgical visit and the lack of sufficient bone mass at the donor site, it is still regarded as the gold standard in alveolar reconstruction, due to its osteoconduction, osteoinduction and osteogenesis-inducing characteristics.

VERTICAL RIDGE AUGMENTATION IN THE POSTERIOR MANDIBLE – A CASE REPORT

DOI: [10.54936/haoms231p13](https://doi.org/10.54936/haoms231p13)

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Institution where the clinical case took place: Athenasmile Pelekanos.

Abstract: Tooth loss leads to bone resorption and, in some cases, to insufficient alveolar bone, for implant placement. To provide adequate bone volume and ensure an aesthetic result, Guided Bone Regeneration (GBR) often is prerequisite in order to increase alveolar ridge vertically and horizontally.

The purpose of this poster is to analyze a case with extended bone loss in the posterior mandible and to present the clinical procedure and outcome of a vertical ridge augmentation followed by the implant placement. An extended vertical bone augmentation was performed, using autogenous graft combined with allograft and xenograft, stabilized by a fibrin sealant made from pooled human plasma. To protect the graft, a non-resorbable high-density PTFE membrane with titanium frame was used, fixed in place with titanium pins. Seven months later, a second surgery took place for the membrane removal and the guided implant placement. Furthermore, due to limited attached keratinized tissues, a free gingival graft from the palatal was placed to the area.

After the period of osseointegration, and the effective increase of the attached gingiva, a digitally made monolithic zirconia implant-supported bridge was designed and successfully restored the edentulous area.

The rehabilitation of edentulism using implants requires a sufficient bone volume for the purpose of long-term prognosis. GBR is one of the most reliable and predictable methods to reconstruct alveolar ridge even in cases with extended bone loss. However, extended vertical bone augmentation constitutes a serious clinical challenge and has to be carefully executed following the contemporary protocols.

RARE PRESENCE OF FOREIGN BODIES IN MAXILLARY SINUSES DUE TO DENTAL PROCEDURES; A RETROSPECTIVE CASE SERIES ANALYSIS OF TREATMENT

DOI: [10.54936/haoms231p14](https://doi.org/10.54936/haoms231p14)

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Introduction: Displacement of foreign bodies into the maxillary sinuses during dental procedures is a rare entity. The most common causes are the iatrogenic dental procedures and the maxillofacial trauma respectively, according to the literature. The aim of this article is to present a case series of foreign bodies displacement into the maxillary sinuses due to iatrogenic dental procedures.

Material and Methods: Detection of the foreign bodies into the maxillary sinuses was achieved with radiologic methods and confirmed intraoperatively or later with the histopathology report. Minimal invasive procedure was the treatment of choice in all cases.

Results: Our study included 27 patients, 17 males and 10 females with mean age of 46.14 years (SD 10.35, range 18-65 years). The displacement of foreign bodies into the maxillary sinus concerned to fragments of teeth in 11 patients (40.27%), whole teeth in 4 (14.81%), dental implants in 5 (18.51%), dental impression materials in 2 (7.4%), endodontic treatment materials in 4 (14.80%) of which 2 associated with aspergillosis, fractured or not dental burs in 1 (3.7%). The occurrence of paranasal sinusitis due to foreign bodies displacement into the maxillary sinuses is time-dependent, the faster the treatment the better the outcome.

Discussion: Development of paranasal sinusitis due to displacement of foreign dental bodies into the maxillary sinuses is the physical outcome. Early surgical treatment is the key factor for to avoid sinusitis or minimize its occurrence.

Keywords: Foreign bodies, Maxillary sinus, Sinusitis, Tooth apex, Dental Implants

A MAXILLARY LESION WITH A RARE DIAGNOSIS; A CASE REPORT OF EWING SARCOMA

DOI: [10.54936/haoms231p15](https://doi.org/10.54936/haoms231p15)

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Objectives: Primary Ewing sarcoma of the head and neck is rare, representing only 3% of all Ewing sarcoma cases. The aim is to present a rare case of maxillary location of a Ewing sarcoma.

Case report: A 23-year-old male patient presented with a chief complaint of upper lip swelling attributed to a cystic lesion in the apical area left lateral maxillary incisor. Imaging showed an apical lesion of this tooth, indicating a broad osteolytic location. The lesion was removed, and a sample was taken for biopsy. The immunohistochemical findings agreed with a malignant bone tumor that exhibits features more compatible with the diagnosis of Ewing's Sarcoma. The patient underwent chemotherapy and radiotherapy. No signs of recurrence can be seen five years after treatment.

Conclusions: Most of the few published cases of primary Ewing sarcoma of the maxillary have been diagnosed as cystic lesions. Early diagnosis of head and neck Ewing sarcoma is essential for operating R0 surgeries that may not require radiotherapy. Each case's severity and needs should be evaluated to select the appropriate treatment regimen.

MULTIPLE CERVICAL SPACES' SECONDARY EMPHYSEMA CAUSED BY A MANDIBULAR ANGLE FRACTURE FROM ASSAULT, REPORT OF A CASE

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Objectives: To present a case of subcutaneous cervicofacial emphysema of a patient with a closed mandibular angle fracture after interpersonal violence.

Case Report: A 36-year-old male was transferred from a regional hospital after a referred interpersonal violence incident. The patient sustained a fracture of the left mandibular angle, as well as a right clavicular fracture, which was treated conservatively by the referring hospital. As depicted by the CT scan, a large emphysema involving the buccal, submandibular, pterygomasseterial and lateral pharyngeal spaces of the left side. Clinically the patient had a positive Hamman's sign. An open reduction was decided with internal rigid fixation. The postoperative course was uneventful.

Conclusions: Cervicofacial emphysema, despite not unusual in fractures involving the midface, due to communication with the paranasal sinuses, is a rather rare

complication of mandibular fractures. Proper clinical and imaging examination is required to exclude expansion of the air to the mediastinum, which can be a life-threatening complication.

Keywords: subcutaneous emphysema, mandibular fracture, trauma complications

HEAD AND NECK RECONSTRUCTION WITH FREE VASCULARIZED FLAPS; OUR EXPERIENCE

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Objectives: The available data of the use of free vascularized flaps in head and neck reconstruction in a single centre is presented.

Materials and Methods: All patients who received a free vascularized flap in our department in the past 5 years (2017-2021) were recorded.

Results: 21 patients were included, 20 oncologic patients and self-inflicted gunshot injury patient. As far as the oncologic patients are concerned, 10 patients received a free flap in the same stage as tumour resection, 4 received a free flap after disease recurrence, and 6 received a free flap after a disease-free period, either for a post-surgical correction of a deformity or to manage post-therapy complications, such as osteoradionecrosis or trismus. In total the survival rate of the oncologic patients is 60%. No major post-surgical complications were observed as far as the flap survival was concerned. The anterolateral thigh flap and fibula flap were the most preferred for reconstruction in 8 and 8 cases respectively. The radial forearm free flap was used in 3 patients and the gracilis flap in 2 patients.

Conclusion: The contribution of our Department in the use of free vascularized flaps, despite small, indicates that they can be effectively used in patients either as immediate reconstruction or a reconstruction in a 2-step approach. Mortality rates are associated with disease recurrence or other major comorbidities of the patients. This experience can be the basis for further expansion of the free flap reconstruction surgery in our Department.

Keywords: head and neck cancer, reconstruction, free flaps

REMODELLING OF THE SUPERFICIAL VASCULAR NETWORK OF SKIN FLAPS IN RATS, FOLLOWING A VASODILATORY CREAM APPLICATION

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Objectives: The experimental study aims to demonstrate the output of a vasodilator agent application on skin prior and after a skin flap elevation and the possibility of the improvement of the flap survival rate

Materials and methods: The study was consisted of two groups and 28 rats were used. The experimental group concerned 28 right abdominal skin flaps that 10 days pre-surgically received iloprost cream (a prostaglandin PGI₂ analogue) and 4 sub-groups of 7 each one post surgically received 2.5, 5, 10, 20 µg/gr of iloprost, respectively. The control group concerned 28 right abdominal skin flaps that pre surgically received white petrolatum (placebo). Laser Doppler flowmetry and dynamic analysis of circulation (radioisotope ^{99m}Tc) were used to evaluate the flaps survival.

Results: The study led to highly comparable results between the study and the control group, as it turned out that the study group showed a mean value of 84.52 (47.70) PU while the control group's result was 38.06 (14.78), respectively (laser Doppler flowmetry). Statistically insignificant was the results for the 4 sub-groups of the study group. The dynamic analysis of circulation revealed hyperaemia for the iloprost applied skin flaps. Pathological examination did not show any inflammation on study group but some vacuum cells probably related to cream phagocytosis.

Conclusion: The application of iloprost on skin 10 days before flap elevation plainly leads to higher rates of flap survival rates.

Keywords: skin flaps, flap survival rate, iloprost, vasodilation

HEAD AND NECK RECONSTRUCTION WITH MAJOR REGIONAL FLAPS; WHAT THE COVID-19 PANDEMIC TAUGHT US

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Objectives: The aim of this study was to record the patients with advanced head and neck cancer who received a major regional flap for reconstruction in the COVID-19 pandemic period.

Materials and Methods: The surgical registry of a single centre was retrospectively searched for identification of patients who met the inclusion criteria of receiving a major regional flap for head and neck reconstruction, after resection of a locally advanced tumour, during the COVID-19 pandemic. The period recorded on this study as March 2020 to February 2021. All data available were recorded (tumour type, staging, operation, reconstruction) as well as post-operative follow up until up to date.

Results: 10 patients met the inclusion criteria. Mean age was 71.9 years old. 6 patients were newly diagnosed patients, whereas 4 were patients with recurrence. As far as staging is concerned, all had stage IV cancers, whereas 6 patients had T4 tumours, 2 T3 and 2 Tx. The latter 2 concern a patient with an occult neck mass of unknown origin and a patient with parotid adenocarcinoma. 4 patients were reconstructed with pectoralis major flap, 4 patients with cervicothoracic flaps, 1 with cervicofacial flap and 1 with deltopectoral flap. All immediate post-operative periods were uneventful but one, who presented a localized hematoma which required drainage. 5 patients appeared with a recurrence in the follow-up period of the first year and did not survive. The rest are surviving disease free with a mean follow-up period of 1.5 years.

Conclusion: Major regional flaps remain a valid alternative for head and neck reconstruction in patients with advanced head and neck cancer. The COVID-19 pandemic reduced the available human and technical resources for other types of flap reconstructions, forcing the use of regional flaps as the treatment of choice for advanced patients.

Keywords: locoregional flaps, oral cancer, head and neck cancer, reconstruction, COVID-19

SURGICAL TREATMENT OF MEDICATION RELATED OSTEONECROSIS OF THE JAW USING PRF

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Medication related osteonecrosis of the jaw (MRONJ) is a severe side effect of antiresorptive therapy with increasing incidence and is defined as a condition of progressive bone destruction in the maxillofacial region of patients. Antiresorptive drugs such as denosumab promotes the inhibition of osteoclast differentiation and function and is commonly used to treat bone cancer¹.

This report aims to present a case of MRONJ in a 76-year-old male patient who suffered from metastatic clear cell renal cell carcinoma (ccRCC). The patient underwent radical nephrectomy and was given, among other drugs, denosumab. After 1 year, he visited to clinic with exposed and necrotic bone that probes to bone, associated with infection as evidenced by pain in the region of the exposed bone and, subsequently, the diagnosis was MRONJ Stage 2. The necrosis was treated surgically with the addition of an autologous platelet concentrate (platelet-rich fibrin, PRF). Wound healing, pain and oral health-related quality of life were assessed via clinical evaluation after 7, 14, 30 days, 3 and 6 months postoperative.

In conclusion, antiresorptive medications have close association to MRONJ in patients with poor oral hygiene and the antiresorptive treatment is recommended that should start after a careful dental preparation. Moreover, concerning MRONJ treatment, this case report indicate that when PRF is combined with successful surgical care, it can improve wound healing and has very promising results in tissue repair, regeneration, and growth.

INTRAORAL LIPOMAS: REVIEW OF LITERATURE AND REPORT OF CLINICAL CASES

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Introduction: Lipoma is a benign mesenchymal tumor composed of mature adipocytes. It is common in the head and neck region, although its appearance in the oral cavity is uncommon. Only 1-5% of the lesions are located in this area; representing 2.2% of all lipomas. The most common areas are the buccal mucosa, lips, tongue, palate, vestibule, floor of the mouth and retro-molar area.

Case presentation: Two patients were referred to our Department for treatment of a tumor located in the floor of the mouth. Clinical examination revealed a mass, soft, mobile, not attached to deeper planes and covered by mucosa which appeared normal but with a slight yellowish color.

The lesions were enucleated under local anesthesia with articaine 1: 100,000 4%, followed by incision, dissection, excision and suture using PGA 3/0. Macroscopically they were encapsulated lesions, easily enucleable and yellowish in color.

Conclusion: While intraoral lipomas are relatively uncommon, their clinical diagnosis is easy due to their yellowish color, and their usual location superficially beneath the mucosa. The differential diagnosis includes fibroma, dermoid cyst, minor salivary gland tumors, mucocele, hemangioma, lymphangioma, rhabdomyoma or neuroma.

ALVEOLAR RIDGE PRESERVATION IN THE AESTHETIC ZONE

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Introduction: Following tooth extraction various alterations in the aesthetic zone of the oral cavity can be expected. These are alveolar bone loss as well as structural and compositional changes of the covering soft tissues. Thus, the clinician is confronted with a challenging situation regarding the decision-making process required to provide an optimal treatment solution.

Purpose: To highlight the importance of preserving the alveolar ridge in the aesthetic zone as well as presenting the methods that exist to achieve it.

Method: A review of the literature of the last five years was performed, with keywords such as: alveolar soft tissue volume; assessment method; esthetic dentistry; extraction socket; wound healing.

Results: The criteria that affect the maintenance of the alveolar ridge, are the time of placement of the implant, the quality of the bone in the extraction socket and the amount of bone remaining in it. The clinician should also have a picture of the quality of the soft tissues that surround the bone socket.

Conclusions: It is very important to realize that the clinical decision-making process for alveolar ridge preservation in the esthetic zone starts before tooth extraction. The placement of a dental implant in the aesthetic zone can be performed after 2 months if the soft tissues remain

Intact. In all other cases where implant placement is not possible, alveolar ridge preservation procedures should be considered.

HORIZONTAL AND VERTICAL RIDGE AUGMENTATION AND ITS TECHNIQUES

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Introduction: A variety of traumatic events cause alveolar bone loss. These traumatic events include tooth loss, sinus perforation, periodontal disease, facial and dento-

alveolar trauma, oral pathologic lesions, and many other conditions. Ridge Augmentation is accomplished using both hard and soft tissue grafting procedures that intend to augment the alveolar ridge volume beyond the existing skeletal envelope.

Purpose: To highlight the importance of the regeneration of the alveolar ridge as well as the techniques involved.

Method: A review of the literature of the last five years was performed, with keywords such as: Alveolar ridge split; Block grafting; Bone augmentation; Distraction osteogenesis; Guided bone regeneration; Osteoperiosteal flap; Ridge expansion.

Results: There are different techniques for regenerating the alveolar ridge. The design and techniques are decided by the clinician depending on the needs of the patient and the size of the alveolar deficit. Now with the current materials available in the trade (bone grafts, collagen membranes) as well as the auxiliary equipment such as (tack pins, platelet derivatives) we can augment the ridge horizontally and vertically, thus reaching the legitimate result.

Conclusions: Alveolar ridge augmentation is a problem-solving pillar in the implementation of treatment plans. However, knowledgeable and skilled professionals should base their decision on the most effective and efficient surgical technique that would provide the patient with a long-lasting bony foundation for implant prosthetics.

SURGICAL TREATMENT OF TEMPOROMANDIBULAR JOINT ANKYLOSIS WITH COSTO-CHONDRAL GRAFT APPLICATION: CASE PRESENTATION

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Abstract: Introduction: Temporomandibular joint (TMJ) ankylosis is a serious condition that affects the

masticatory system and is referred as permanent movement dysfunction of the mandible caused by bilateral or unilateral fibrous or bony adhesions leading to numerous consequences. The causes may be congenital or acquired and include trauma, arthritis, infection, neoplasms, previous TMJ surgery etc. Surgical treatment consists of extensive resection of the ankylotic mass and reconstruction of the ramus-condyle unit with autogenous or alloplastic grafts. A combination of surgical treatment and physiotherapy is usually needed in order to achieve maximum rehabilitation and functionality of the mandible. The purpose of this poster presentation is to present the surgical management of an unusual case of unilateral TMJ ankylosis and review the literature.

Case report: A thirty-seven-year old male patient presented complaining of the inability to open his mouth since his birth. Clinical examination revealed congenital unilateral TMJ ankylosis. The lateral movement of the mandible was impossible. The patient was treated with resection of the ankylotic bone mass, replacement of the condyle with costo-chondral graft and replacement of articular disc with the temporal fascia. Since the surgery was completed the patient shows no signs of relapse.

Conclusion: TMJ ankylosis can be congenital or acquired. Its treatment requires detailed medical history, clinical and radiographic examination. Surgical resection of the ankylotic bone and coronoid process is necessary and a graft that resembles to the ramus-condyle unit can be placed. Immediate postoperative kinesiotherapy and regular recalls are of great importance.

EAGLE SYNDROME: ETIOLOGY, DIAGNOSIS AND TREATMENT. A LITERATURE REVIEW AND PRESENTATION OF CASES

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Abstract: Objectives: The aim of this poster presentation is to review the etiology, diagnostic process and management of Eagle syndrome. In addition, some cases diagnosed with Eagle syndrome are discussed.

Materials and Methods: Searches were conducted in Google Scholar, PubMed and Science Direct databases. Only English language results were reviewed. The following key words were used: "Eagle Syndrome" and "stylohyoid syndrome". Typical cases will be presented.

Results: Eagle Syndrome is a rare clinical condition (4–8 per 10,000 people) that presents with a variety of symptoms. It was first described by Eagle in 1937. It is more common in females than males (2:1 ratio) and in ages mainly greater than 50 years. Eagle syndrome is characterised by elongation of the styloid processes and/or stylohyoid ligament calcification, unilaterally or bilaterally. Due to its atypical symptoms, it is easy to be misdiagnosed. Common symptoms are: facial and neck pain, otalgia or temporomandibular joint pain, dysphagia/odynophagia, foreign body sensation. Other conditions related with Eagle syndrome are: ischemic attacks, carotid artery dissection and Horner's syndrome. The patient's history, physical examination and imaging are essential for management of this condition. Three-dimensional reconstructive computed tomographic (CT) scan remains the gold standard for diagnosis, as is shown in our case. Eagle syndrome is commonly treated either with conservative methods (e.g. analgesics, anticonvulsants, local injections) or surgically (intraoral or extraoral approach).

Conclusion: Eagle syndrome is rare and difficult to diagnose. Various specialists are involved in its management. Proper diagnosis and treatment are significant due to its potentially serious complications. Surgical treatment is more definitive and provides long lasting relief.

DENTAL IMPLANTS SURGERY AND SYSTEMATIC DISEASES

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Introduction: Dental implants surgery including guided bone regeneration has become common clinical practice nowadays as it is a well established method for complete or partial edentulous patients' treatment. A challenge for the clinician is commonly raised in cases where the patient suffers from a systematic disease or a local severe situation. The decision to proceed in dental implant surgery in such cases is often difficult to be taken.

Purpose and Methods: The aim of this study is to present the most recent data regarding the impact of various systematic diseases and conditions in dental implants surgery including guided bone regeneration. Research for this study was done by evaluating papers of the last decade from online databases such as: PubMed, Medline, and Google Scholar.

Results: Although for systematic diseases and conditions the published studies in relation to dental implants surgery are case reports, clinical and meta-analysis studies were also found giving very interesting findings. The most important systematic diseases have been studied, such as diabetes, osteoporosis and other bone diseases, cardiovascular diseases, endocrine or hematologic disorders, lung or liver problems, immunodeficiency etc. Conditions which affect the surgical results as medication, smoking, age, jaw radiation and chemotherapy must be considered before dental implants surgery.

Conclusions: While the level of evidence indicative of absolute and relative contraindications for implant therapy due to systemic diseases is low, it is important to know the implications of the systemic diseases or those produced by medications or various conditions in the oral cavity, in order to prevent failures in patients who are going to receive dental implant therapy or bone regeneration.

Ματιές στην Ιστορία της Ιατρικής/Glances in the History of Medicine

**«Ιητρική δε πάντα
πάλαι υπάρχει...»**

Ιπποκράτης

Ambroise Paré:

Ο «ευγενικός χειρουργός».

Ο Ambroise Paré (1510/1517-1590) (Εικ. 1), γεννήθηκε στο περιτειχισμένο χωριό Bourg-Hersent, έξω από την πόλη Laval, στην Επαρχία Mayenne της Βορειοδυτικής Γαλλίας, στην Περιοχή του Λίγηρα. Η οικογένειά του είχε μακρά παράδοση στην άσκηση του επαγγέλματος του κουρέα-χειρουργού, καθόσον τόσο ο αδελφός του

όσο και ο κουνιάδος του ήσαν κουρείς-χειρουργοί. Ο ίδιος άρχισε από πολύ νωρίς να μαθητεύει στην άσκηση της χειρουργικής τέχνης, ασχολούμενος για πολύ καιρό με την θεραπευτική αντιμετώπιση χειρουργικών ασθενών. Παρά το γεγονός ότι δεν έλαβε τυπική ιατρική εκπαίδευση, φοιτώντας σε κάποια Ιατρική Σχολή, εν τούτοις έγινε και αυτός κουρέας-χειρουργός, παρακολουθώντας πρακτικά μαθήματα στο περίφημο Νοσοκομείο Hôtel-Dieu των Παρισιών, ένα από τα παλαιότερα Νοσηλευτικά Ιδρύματα της Γαλλίας, ενώ το 1545 άρχισε να μελετά Ανατομία στο Παρίσι, υπό την καθοδήγηση του περίφημου Γάλλου Ανατόμου της Ιατρικής Σχολής του Πανεπιστημίου των Παρισιών και μετέπειτα Καθηγητού της Χειρουργικής στο Βασιλικό Κολέγιο (Collège Royal) των Παρισιών, Jacques Dubois (Jacobus Sylvius) (1478-1555). Η αξιοσημείωτη χειρουργική του δεξιοτέχνητα και πρωτοτυπία, αλλά

και η εφευρετικότητά του, τον καθιέρωσαν ως τον μεγαλύτερο χειρουργό του Μεσαίωνα και ειδικότερα του 16ου αιώνα, χαρίζοντάς του το προσωνύμιο του «Πατέρα της Χειρουργικής» (Εικ. 2). Η κοινωνική αποδοχή και καταξίωσή του επισφραγίσθηκαν με την είσοδό του στην Γαλλική Βασιλική Αυλή ως προσωπικού χειρουργού τεσσάρων Βασιλέων της Γαλλίας, ήτοι των Ερρίκου Β', Φραγκίσκου Β', Καρόλου Θ' και Ερρίκου Γ', εξασφαλίζοντάς του την υψηλή προστασία του Βασιλικού Οίκου της Γαλλίας. Χαρακτηριστική είναι η διάσωσή του από

**“But all these requisites
belong of old to Medicine...”**

Hippocrates

Ambroise Paré:

The “gentle surgeon”.

Ambroise Paré (1510/1517-1590) (Fig. 1), was born in the walled village of Bourg-Hersent, outside the town of Laval, in the Mayenne Province of Northwestern France, in the Loire Region. His family had a long tradition in the profession of barber-surgeon, as both his brother and brother-in-law were barber-surgeons. He

himself began to learn the practice of the surgical art from a very early age, dealing for a long time with the treatment of surgical patients. Although he did not receive formal medical education attending a Medical School, he also became a barber-surgeon, taking practical classes at the famous Hôtel-Dieu Hospital in Paris, one of the oldest Hospitals in France, and in 1545 he began to study Anatomy in Paris, under the guidance of the famous French Anatomist of the Medical School of the University of Paris and later Professor of Surgery at the Collège Royal (Royal College) in Paris, Jacques Dubois (Jacobus Sylvius) (1478-1555). His remarkable surgical skill and originality, but also his ingenuity, established him as the greatest surgeon of the Middle Ages and especially of the 16th century, giving him the nickname of “Father of Surgery” (Fig. 2). His social acceptance and prestige were sealed with his entry into the French Royal Court as a personal

surgeon of four Kings of France, namely Henry II, Francis II, Charles IX and Henry III, ensuring the high protection of the Royal House of France. Characteristic is his rescue by Charles IX himself during the famous “Night of St. Bartholomew” (August 23-24, 1572), where tens of thousands of Huguenots (Calvinist Protestants) were massacred in Paris by a furious mob of Roman Catholics, as it was rumored that Paré was a Protestant.

Ambroise Paré's contribution to the development, evolution and progress of Surgery has been very great but



Εικ. 1: Ο μεγαλύτερος χειρουργός του Μεσαίωνα, διαπρεπής Γάλλος χειρουργός του 16ου αιώνα, Ambroise Paré (1510/1517-1590). Μεταθανάτιο φανταστικό πορτρέτο από τον Άγγλο χαράκτη William Hall τον Νεώτερο (1807-1871).

Fig. 1: The greatest Medieval surgeon, eminent French surgeon of the 16th century, Ambroise Paré (1510/1517-1590). Posthumous fantasy portrait by English engraver William Hall the Younger (1807-1871).

τον ίδιο τον Κάρολο Θ' κατά την περίφημη "Νύχτα του Αγίου Βαρθολομαίου" (23-24 Αυγούστου 1572), όπου σφαγιάστηκαν στο Παρίσι δεκάδες χιλιάδες Ουγενότοι (Καλβινιστές Προτεστάντες) από ένα μανιασμένο όχλο Ρωμαιοκαθολικών, καθόσον εθρυλείτο ότι ο Paré ήταν Προτεστάντης.

Η συμβολή του Ambroise Paré στην ανάπτυξη, εξέλιξη και πρόοδο της Χειρουργικής, υπήρξε πολύ μεγάλη αλλά και καθοριστική, αν αναλογιστεί κανείς την χρονική περίοδο κατά την οποία έδρασε και λειτούργησε ως χειρουργός, όταν οι κανόνες υγιεινής ήσαν από ανύπαρκτοι έως υποτυπώδεις στην καλύτερη περίπτωση, με το επίπεδο δημόσιας υγείας πολύ χαμηλό, η πανούκλα και εν γένει οι μεταδοτικές ασθένειες και τα λοιμώδη νοσήματα ήσαν ενδημικά αλλά και επιδημικά, ενώ ο πόλεμος και οι συγκρούσεις αποτελούσαν μία σταθερή παράμετρο της κοινωνικής και πολιτικής ζωής, αλλά και των διεθνών σχέσεων (Εικ. 3).

Ο Paré υπήρξε πρωτοπόρος όσον αφορά την χειρουργική του πολέμου και την στρατιωτική ιατρική, ενώ η βαρύτητα του επιστημονικού του έργου και η συμβολή του στην ανάπτυξη της Χειρουργικής, συγκρίνεται από πολλούς μελετητές με την αντίστοιχη συμβολή του συγχρόνου του Φλαμανδού ιατρού και ανατόμου Andreas Vesalius [Andries van Wesel] (1514-1564), στην εξέλιξη της Ανατομίας. Ρηξικέλευθη και άκρως μεταρρυθμιστική υπήρξε η προσέγγιση του Paré στην αντιμετώπιση των τραυμάτων από πυροβόλα όπλα, τα οποία μέχρι την εποχή του θεωρούνταν ως συντριπτικές, εγκαυματικές, αλλά και δηλητηριασμένες κακώσεις, κυρίως λόγω της κρατούσας άποψης από την εποχή του Γιοβαννί da Vigo (1450-1525), του Ιταλού προσωπικού χειρουργού του Πάπα Ιουλίου Β', ο οποίος ισχυριζόταν ότι όλα τα τραύματα από πυροβόλα όπλα οδηγούν σε δηλητηρίαση των θυμάτων από την παρουσία της πυρίτιδας, γι' αυτό και συνιστούσε τον καυτηριασμό με βραστό λάδι ή με πυρακτωμένο σίδερο, έτσι ώστε να εξουδετερωθεί το δηλητήριο και να σφραγισθούν τυχόν διατμηθείσες αρτηρίες. Ο Γιοβαννί da Vigo είχε αναπτύξει την θεωρήσή του αυτή σε δύο συγγράμματα που είχε εκδώσει το 1514 [Practica in arte chirurgica copiosa] (Πρακτική στην άφθονη χειρουργική τέχνη) και το 1517 [Pratica in professione chirurgica] (Πρακτική στο χειρουργικό επάγγελμα), τα οποία είχαν μεταφραστεί γρήγορα σε πολλές ευρωπαϊκές γλώσσες, αποτελώντας με τον τρόπο αυτό χειρουργικά βιβλία με μεγάλη επιρροή και αποδοχή. Το 1536/1537 σε μία εκστρατεία στο Τορίνο, όπου ο Paré ακολουθούσε τον Γαλλικό στρατό υπό τον Δούκα de Montejan ως στρατιωτικός χειρουργός, μη διαθέτοντας επαρκή ποσότητα λαδιού προκειμένου να καυτηριάσει τραύματα από πυροβόλα όπλα, αντ' αυτού εφάρμοσε πάνω στα τραύματα μία αλοιφή αποτελούμενη από κρόκο αυγού, ροδέλαιο και τερεβινθέλαιο, προχωρώντας σε επίδεσή τους και παρατηρώντας την επόμενη ημέρα, ότι οι τραυματίες ήσαν πολύ καλύτερα από εκείνους που είχαν υποβληθεί σε καυτηριασμό με

Εικ. 2: Ο «Πατέρας της Χειρουργικής»

Ambroise Paré. Γκραβούρα φιλοτεχνημένη από τον Γάλλο χαράκτη Sébastien Leclerc (1637-1714), βασισμένη σε πορταίτο του Γάλλου ζωγράφου Claudius Jacquand (1803-1878) το 1838. Wellcome Collection (Συλλογή/Μουσείο Wellcome), London, UK.

Fig. 2: The "Father of Surgery"

Ambroise Paré. Line engraving by Sébastien Leclerc (1637-1714), 1838, after Claudius Jacquand (1803-1878). Wellcome Collection, London, UK.



Εικ. 3: Ο Ambroise Paré αφαιρώντας την μύτη ενός βέλους από το πρόσωπο του François de Lorraine, 2ου Δούκα de Guise, ο οποίος είχε τραυματιστεί στο πρόσωπο το 1544 λαμβάνοντας μέρος στην λύση της πολιορκίας της Βουλώνης από τους Άγγλους. Ξυλογραφία φιλοτεχνημένη από τον Γάλλο χαράκτη Joseph Anseau, βασισμένη σε έργο του Γάλλου ζωγράφου Edmond Morin (1824-1882). Wellcome Library (Βιβλιοθήκη Wellcome), London, UK.

Fig. 3: Ambroise Paré removing the head of a spear from the face of François de Lorraine, 2nd Duc de Guise, who was wounded in the face in 1544, while taking part in the relief of the siege of Boulogne by the English. Wood engraving by Joseph Anseau after Edmond Morin (1824-1882). Wellcome Library, London, UK.



Εικ. 4: Ο Ambroise Paré θεραπεύοντας τραυματισμένους στρατιώτες ως στρατιωτικός χειρουργός, 16ος αιώνας. Γκραβούρα βασισμένη σε έναν πίνακα του Βέλγου ζωγράφου και χαράκτη Edouard Jean Conrad Hamman (1819-1888). Library of Congress (Βιβλιοθήκη του Κογκρέσου), Washington DC, USA.

Fig. 4: Ambroise Paré treating wounded soldiers as a military surgeon, 16th century. Engraving based on a painting by Belgian painter and engraver Edouard Jean Conrad Hamman (1819-1888). Library of Congress, Washington DC, USA.



Εικ. 5: Ο Ambroise Paré εισήγαγε την απολίνωση των αρτηριών για τον έλεγχο της αιμορραγίας, μετά την διενέργεια ακρωτηριασμού. Χρωμολιθογραφία φιλοτεκνημένη από τον Ισπανό σκηνογράφο Jose Planella i Coromina (1804-1890), από το βιβλίο "La Ciencia Y Sus Hombres: vidas de los sabios ilustres desde la antigüedad hasta el siglo XIX T. 2" (Η Επιστήμη και οι άνθρωποι της: η ζωή των επιφανών σοφών από την αρχαιότητα μέχρι τον 19ο αιώνα, Τόμος 2), του Louis Figuier (1819-1894), που εκδόθηκε στην Βαρκελώνη από τον εκδότη D. Jaime Seix, το 1879.

Fig. 5: Ambroise Paré introduced the ligation of arteries for bleeding control after amputation. Chromolithograph created by Spanish scenographer Jose Planella i Coromina (1804-1890), from the book "La Ciencia Y Sus Hombres: vidas de los sabios ilustres desde la antigüedad hasta el siglo XIX T. 2" (Science and its men: lives of the illustrious sages from antiquity to the 19th century, Vol. 2), by Louis Figuier (1819-1894), published in Barcelona by D. Jaime Seix, editor, 1879.



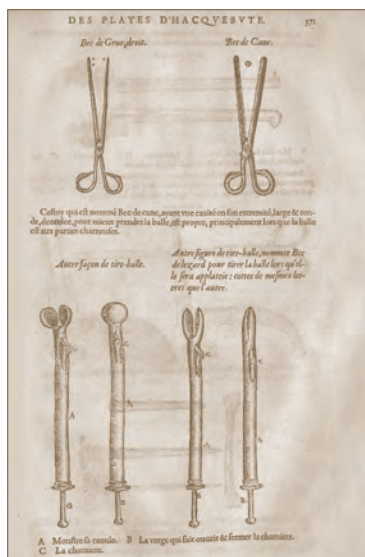
Εικ. 6: Ο Ambroise Paré διενεργεί απολίνωση αρτηρίας. Λεπτομέρεια πίνακα του Γάλλου ζωγράφου Théobald Chartran (1849-1907), Université de la Sorbonne, Paris, France (Πανεπιστήμιο της Σορβόνης, Παρίσι, Γαλλία).

Fig. 6: Ambroise Paré performs artery ligation. Detail of a painting by French painter Théobald Chartran (1849-1907), Université de la Sorbonne (Sorbonne University), Paris, France.

also decisive, considering the period during which he acted and functioned as a surgeon, when the rules of hygiene were from non-existent to substandard at best, with the level of public health very low, the plague and communicable and infectious diseases in general were endemic and epidemic, while war and conflict were a constant parameter of social and political life, but also of international relations (Fig. 3).

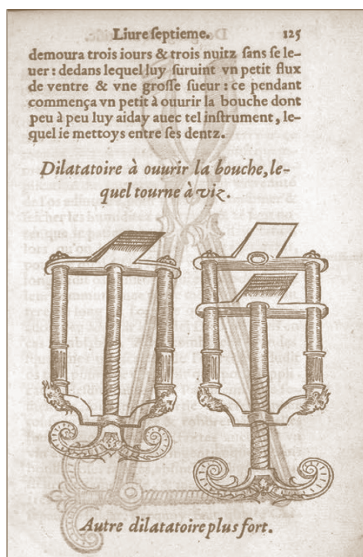
Paré was a pioneer in war surgery and military medicine, while the importance of his scientific work and his contribution to the development of Surgery, is compared by many scholars with the corresponding contribution of his contemporary Flemish physician and anatomist Andreas Vesalius [Andries van Wesel] (1514-1564), in the evolution of Anatomy.

Paré's approach to dealing with gunshot wounds, which until his time were considered as comminuted, burning, but also poisonous injuries, was radical and highly reformist, mainly due to the prevailing view from the time of Giovanni da Vigo (1450-1525), the Italian personal surgeon of Pope Julius II, who claimed that all gunshot wounds lead to poisoning of the victims by the presence of gunpowder, and therefore recommended cauterization with boiling oil or incandescent iron, so as to neutralize the venom and seal any shear arteries. Giovanni da Vigo had developed this view in two books published in 1514 [Practica in arte chirurgica copiosa] (Practice in the abundant surgical art) and in 1517 [Pratica in professione chirurgica] (Practice in the surgical profession), which had been quickly translated into many European languages, thus becoming highly influential and accepted surgical books. In 1536/1537 on a campaign in Turin, where Paré followed the French army under Duke de Montejan as a military surgeon, not having enough oil to cauterize gunshot wounds, he instead applied on the wounds an ointment consisting of egg yolk, rose oil and turpentine oil, proceeding to bandage them and observing the next day, that the wounded were much better than those who had undergone cauterization with boiling oil (Fig. 4). He published these observations in French in 1545, in a classic book entitled "La Methode de traiter les playes faites par hacquebutes" (Method of treatment for wounds from firearms), which contributed significantly to the change in the way of thinking and dealing with wounds from firearms, and gave Ambroise Paré the nickname of the "gentle surgeon", associated with the mildness, gentleness and softness of the applied manipulations. His urging that bleeding after amputation should be controlled by suturing (ligation) and not by cauterization, was also important (Figs. 5, 6). Ambroise Paré invented, designed and manufactured many surgical instruments (Figs. 7, 8), he performed the first dislocation of the elbow joint in 1536, he described a fracture of the femoral neck, he was the first to consider syphilis as the cause of aneurysm, he recognized rickets, he introduced the application of massage, he de-



Εικ. 7: Διάφορα χειρουργικά εργαλεία για την αφαίρεση βλημάτων πυροβόλων όπλων από τραύματα. Σχέδια από την πρώτη έκδοση του συγγράμματος “Les Oeuvres de M. Ambroise Paré” (Τα Έργα του κ. Ambroise Paré), Παρίσι, 1575.

Fig. 7: Various surgical tools for extracting firearms bullets from wounds. Drawings from the first edition of the book entitled “Les Oeuvres de M. Ambroise Paré” (The Works of Mr. Ambroise Paré), Paris, 1575.



Εικ. 8: Απεικόνιση στοματοδιαστολέα από το βιβλίο του Ambroise Paré “Dix Livres de la Chirurgie” (Δέκα Βιβλία Χειρουργικής), 1564, σ. 125. Bibliothèque Interuniversitaire de Santé, Paris, France (Διαπανεπιστημιακή Βιβλιοθήκη Υγείας, Παρίσι, Γαλλία).

Fig. 8: Illustration of a mouth gag from Ambroise Paré's book “Dix Livres de la Chirurgie” (Ten Books of Surgery), 1564, p. 125. Bibliothèque Interuniversitaire de Santé (Interuniversity Health Library), Paris, France.



Εικ. 9: Απεικόνιση χειρουργικής επέμβασης προσώπου, επιχρωματισμένη με το χέρι, από το βιβλίο “La méthode curative des playes et fractures de la teste humaine. Avec les pourtraits des instruments nécessaires pour la curation d'icelles. Par M. Ambroise Paré. Jean Le Royer, Paris, 1561” (Η θεραπευτική μέθοδος πληγών και καταγμάτων του ανθρωπίνου κρανίου. Με τα περιγράμματα των οργάνων που είναι απαραίτητα για την επιμέλεια αυτών. Του κ. Ambroise Paré. Jean Le Royer, Παρίσι, 1561).

Fig. 9: Hand coloured illustration of facial surgery, from the book “La méthode curative des playes et fractures de la teste humaine. Avec les pourtraits des instruments nécessaires pour la curation d'icelles. Par M. Ambroise Paré. Jean Le Royer, Paris, 1561” (The curative method of wounds and fractures of the human head. With the outlines of the instruments necessary for the curation of these. By Mr. Ambroise Paré. Jean Le Royer, Paris, 1561).

βραστό λάδι (Εικ. 4). Τις παρατηρήσεις του αυτές δημοσίευσε στα Γαλλικά το 1545, σε ένα κλασικό σύγγραμμα με τίτλο “La Methode de traicter les playes faictes par hacquebutes” (Μέθοδος θεραπείας τραυμάτων από πυροβόλα όπλα), το οποίο συνέβαλε καθοριστικά στην αλλαγή του τρόπου σκέψης και αντιμετώπισης των τραυμάτων από πυροβόλα όπλα, προσέδωσε δε στον Ambroise Paré το προσωνύμιο του «ευγενικού χειρουργού», σχετιζόμενο με την ηπιότητα, πραότητα και απαλότητα των εφαρμοζόμενων χειρισμών. Σημαντική υπήρξε επίσης και η προτροπή του ότι η αιμορραγία μετά από την διενέργεια ακρωτηριασμού, θα πρέπει να ελέγχεται με συρραφή (απολίνωση) και όχι με καυτηριασμό (Εικ. 5, 6). Ο Ambroise Paré επινόησε, σχεδίασε και κατασκεύασε πολλά χειρουργικά εργαλεία (Εικ. 7, 8), διενήργησε το 1536 την πρώτη εξάρθρωση της κατ' αγκώνα αρθρώσεως, περιέγραψε ένα κατάγ-

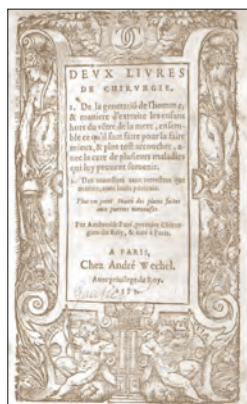
scribed in 1575 carbon monoxide poisoning, he introduced in Obstetrics in cases of abnormal deliveries the manipulation of the fetus's rotation in the uterus and the fetus's projection by the feet through the cervix during childbirth, he performed plastic repair surgery of hernia without castration, while he is also considered as one of the founders of modern Forensic Pathology. Ambroise Paré's multifaceted interests can also be seen in the fact that he also dealt with teratology, publishing a relevant book with references to mummies, the unicorn, as well as descriptions of land and sea monsters.

Oral and Maxillofacial Surgery was another subject that attracted the interest of Ambroise Paré, as he dealt with the treatment of fractures of the jaws, dislocation of the mandible and various tumors (Figs. 9, 10). Also in terms of dentoalveolar surgery and in particular tooth extraction, Ambroise Paré described appropriate surgi-



Εικ. 10: Η απεικόνιση των μυών της κάτω γνάθου από τον Ambroise Paré. Ανατομική εικόνα από το βιβλίο "Les oeuvres d' Ambroise Paré. Chez Pierre Rigaud, Lyon, 1652" (Τα έργα του Ambroise Paré. Εκδοτικός Οίκος Pierre Rigaud, Λυών, 1652).

Fig. 10: Ambroise Paré's depiction of the muscles of the mandible. Anatomical illustration from the book "Les oeuvres d' Ambroise Paré. Chez Pierre Rigaud, Lyon, 1652" (The works of Ambroise Paré. Chez Pierre Rigaud, Lyon, 1652).



Εικ. 11: Το εξώφυλλο του συγγράμματος του Ambroise Paré "Deux Livres de Chirurgie" (Δύο Βιβλία Χειρουργικής), το οποίο εκδόθηκε το 1573 στο Παρίσι, από τον Εκδοτικό Οίκο André Wechel.

Fig. 11: The cover page of Ambroise Paré's book "Deux Livres de Chirurgie" (Two Books of Surgery), published in Paris in 1573, by the publisher André Wechel.

μα του αυχένα του μηριαίου οστού, υπήρξε ο πρώτος που θεώρησε ότι η σύφιλη ήταν η αιτία ανευρύσματος, αναγνώρισε την ραχίτιδα, εισήγαγε την εφαρμογή των μαλάξεων, περιέγραψε το 1575 την δηλητηρίαση από μονοξείδιο του άνθρακα, εισήγαγε στην Μαιευτική σε περιπτώσεις μη φυσιολογικών τοκετών τον χειρισμό της στροφής του εμβρύου εντός της μήτρας και της δια των ποδών προβολής του εμβρύου δια μέσου του τραχήλου της μήτρας κατά τον τοκετό, διενήργησε εγχείρηση πλαστικής αποκατάστασης κήλης χωρίς ευνουχισμό, ενώ επίσης θεωρείται και ως ένας από τους θεμελιωτές της σύγχρονης Ιατροδικαστικής Παθολογίας. Το πολυπλευρο των ενδιαφερόντων του Ambroise Paré φαίνεται και από το γεγονός ότι ασχολήθηκε και με την ιατρολογία, εκδίδοντας σχετικό σύγγραμμα με αναφορές στις μούμιες, τον μονόκερο, καθώς επίσης και περιγραφές τεράτων της ξηράς και των θαλασσών.

cal techniques and methods, as well as gingival incision manipulations to facilitate the eruption of a tooth. It is noteworthy that he drew attention to avoid the extraction of the wrong tooth, noting that often the patient does not know exactly which tooth is actually hurting him, while warning to avoid the presence of a bone fragment, as this may cause fever, suppuration, and even lead to death. He developed his views on odontalgia and tooth extraction in two chapters of his book "Deux Livres de Chirurgie" (Two Books of Surgery), published in Paris in 1573 (Fig. 11). Paré advocated replacing missing teeth with bone and ivory implants, and described in the best possible way the first written report of a successful tooth transplant in a princess, in which an anterior tooth of the maxilla was removed and it was replaced by a tooth which was taken from one of her maids, and then transplanted to the princess's socket. It is described that after some time of healing, the princess was able to use this new tooth of hers with ease, and as well as if it were her own.

Maxillofacial Prosthetics owes much to Ambroise Paré, as he described the first documented use of maxillofacial prostheses during the 16th century. Specifically, he mentioned the use of artificial eyes, ears and noses (Fig. 12), while he also described the manufacturing of an obturator of the palate, as well as facial epitheses held in place with small laces (Fig. 13). The fabrication materials of the maxillofacial prostheses included special paper (papier-mâché), leather, ivory, gold and silver. The nasal prostheses could be held in place with sticky substances, or with three linen strips wrapped around the patient's head. The ear prostheses could be held in place with a metal band, which was placed over the patient's head, while the ocular prostheses could be retained either internally in the orbit or externally in a similar manner to the ear prostheses. In particular with regard to the obturator prosthesis of the palate, a dry sponge could be attached to the upper surface of the prosthesis (obturator region), so that when the dry sponge entered the palatine cavity and was moistened, it expanded and held the prosthesis in place.

Ambroise Paré (Fig. 14) was a prolific medical writer, publishing 29 short textbooks and 3 treatises, describing mainly his personal experience in various medical-surgical subjects, but writing in French rather than Latin, which was the most widely accepted scientific language, in terms of academic medicine. This fact made his books more accessible and popular with medical students, but also with the general public, while his entire work was collected in one volume, which was published in 1575 under the title "Les Oeuvres de M. Ambroise Paré" (The Works of Mr. Ambroise Paré) (Fig. 15), dedicated to King Henry III. It is also noteworthy that in addition to his personal observations and views, Ambroise Paré gathered in this monumental work all the medical and surgical knowledge of his time, citing 173 authors, includ-

Η Στοματική και Γναθοπροσωπική Χειρουργική υπήρξε ακόμη ένα γνωστικό αντικείμενο που προσείλκυσε το ενδιαφέρον του Ambroise Paré, καθώς τον ασχολήθηκε με την θεραπευτική αντιμετώπιση των καταγμάτων των γνάθων, του εξαρτηρήματος της κάτω γνάθου και διαφόρων όγκων (Εικ. 9, 10). Επίσης όσον αφορά την οδοντοφαρμακική χειρουργική και ειδικότερα την αφαίρεση των δοντιών, ο Ambroise Paré περιέγραψε κατάλληλες χειρουργικές τεχνικές και μεθόδους, καθώς επίσης και χειρισμούς σχάσης των ούλων προς διευκόλυνση της ανατολής ενός δοντιού. Αξιοσημείωτο είναι ότι επιστούσε την προσοχή για την αποφυγή εξαγωγής του λανθασμένου δοντιού, σημειώνοντας ότι συχνά ο ασθενής δεν γνωρίζει επακριβώς ποιο είναι το δόντι εκείνο που στην πραγματικότητα τον πονάει, ενώ προειδοποιούσε για την αποφυγή παραμονής οστικού θραύσματος, καθώς αυτό μπορεί να προκαλέσει πυρετό, διαπύηση και να οδηγήσει ακόμη και στον θάνατο. Τις απόψεις του για την οδονταλγία και την αφαίρεση των δοντιών, τις ανέπτυξε σε δύο κεφάλαια του συγγράμματός του με τίτλο "Deux Livres de Chirurgie" (Δύο Βιβλία Χειρουργικής), το οποίο εκδόθηκε στο Παρίσι το 1573 (Εικ. 11). Ο Paré ήταν υπέρμαχος της αντικατάστασης ελλειπόντων δοντιών με εμφυτεύματα κατασκευασμένα από οστόν και ελεφαντόδοντο, ενώ περιέγραψε με τον καλύτερο δυνατό τρόπο την πρώτη γραπτή αναφορά περίπτωσης επιτυχημένης μεταφύτευσης δοντιού σε μία πριγκίπισσα, στην οποία αφαιρέθηκε ένα πρόσθιο δόντι της άνω γνάθου, το οποίο αντικαταστάθηκε με ένα δόντι το οποίο λήφθηκε από μία υπηρέτριά της και μεταφυτεύθηκε στην συνέχεια στο φατνίο της πριγκίπισσας. Περιγράφεται ότι μετά την παρέλευση κάποιου χρόνου επώλωσης, η πριγκίπισσα ήταν σε θέση να χρησιμοποιεί αυτό το νέο της δόντι με ευκολία και εξίσου καλά σαν να ήταν δικό της.

Η Γναθοπροσωπική Προσθετολογία εξάλλου οφείλει πολλά στον Ambroise Paré, καθώς τον περιέγραψε την πρώτη τεκμηριωμένη χρήση γναθοπροσωπικών προθέσεων κατά την διάρκεια του 16ου αιώνα. Συγκεκριμένα ανέφερε την χρησιμοποίηση τεχνητών οφθαλμών, ώτων και ρινών (Εικ. 12), ενώ επίσης περιέγραψε την κατασκευή ενός αποφρακτήρα της υπερώας, αλλά και επιθεμάτων του προσώπου συγκρατούμενων στην θέση τους με μικρά κορδόνια (Εικ. 13). Τα υλικά κατασκευής των γναθοπροσωπικών προθέσεων περιελάμβαναν ειδικό χαρτί, δέρμα, ελεφαντόδοντο, χρυσό και ασήμι. Οι ρινικές προθέσεις μπορούσαν να συγκρατηθούν με κολλώδεις ουσίες, ή με τρεις λινές ταινίες που τυλιγόνταν γύρω από το κεφάλι του ασθενούς. Οι προθέσεις των ώτων μπορούσαν να συγκρατηθούν στην θέση τους με μία μεταλλική ταινία, η οποία τοποθετούταν πάνω από την κεφαλή του ασθενούς, ενώ οι οφθαλμικές προθέσεις μπορούσαν να σταθεροποιηθούν είτε εσωτερικά εντός του οφθαλμικού κόγχου ή εξωτερικά με παρόμοιο τρόπο όπως και οι ωτικές προθέσεις. Ειδικότερα όσον αφορά την πρόθεση του αποφρακτήρα της υπερώας, στην



Εικ. 12: Δύο όψεις μίας ρινικής πρόθεσης, από την Γαλλική έκδοση «Απάντων των Έργων» του Ambroise Paré, του 1614. The Huntington Library, Art Museum, and Botanical Gardens (Βιβλιοθήκη, Μουσείο Τέχνης και Βοτανικοί Κήποι Huntington), San Marino, California, USA.

Fig. 12: Two views of a nasal prosthesis, from the 1614 French edition of Ambroise Paré's "Complete Works". The Huntington Library, Art Museum, and Botanical Gardens, San Marino, California, USA.



Εικ. 13: Μάσκα προσώπου κατασκευασμένη από συγκολλημένο χαρτί και λινό, βαμμένη και επισμαλτωμένη (εμαγιέ). Από το σύγγραμμα του Ambroise Paré "Dix livres de chirurgie avec le magasin des instruments nécessaires à icelle" (Δέκα βιβλία χειρουργικής με την παρακαταθήκη των εργαλείων που είναι απαραίτητα για αυτήν), Jean Le Royer, Paris, 1564.

Fig. 13: Face mask made of glued paper and linen, painted and enameled. From Ambroise Paré's book "Dix livres de chirurgie avec le magasin des instruments nécessaires à icelle" (Ten books of surgery with the store of instruments necessary for it), Jean Le Royer, Paris, 1564.



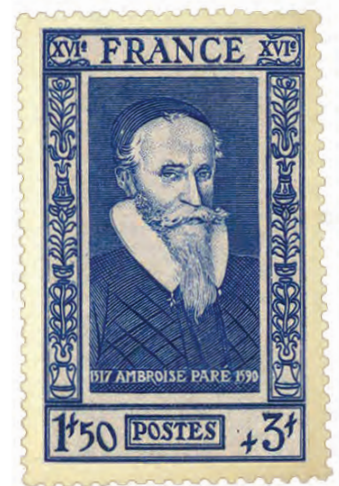
Εικ. 14: Πορτραίτο του Ambroise Paré, χειρουργού του Βασιλέως. Γκραβούρα φιλοτεκνημένη το 1582 από τον Γάλλο χαράκτη Étienne Delaune (1518/1519-1583/1595). The Metropolitan Museum of Art (Μητροπολιτικό Μουσείο Τέχνης), New York, USA.

Fig. 14: Portrait of Ambroise Paré, the King's surgeon. Engraving made in 1582 by Étienne Delaune (1518/1519-1583/1595). The Metropolitan Museum of Art, New York, USA.



Εικ. 15: Το εξώφυλλο του εμβληματικού συγγράμματος του Ambroise Paré "Les Oeuvres de M. Ambroise Paré" (Τα Έργα του κ. Ambroise Paré), το οποίο εκδόθηκε το 1575, από τον εκδοτικό οίκο "Gabriel Buon" στο Παρίσι.

Fig. 15: The cover page of Ambroise Paré's emblematic book "Les Oeuvres de M. Ambroise Paré" (The Works of Mr. Ambroise Paré), published in 1575 in Paris, by the publisher "Gabriel Buon".



Εικ. 16: Ο Ambroise Paré σε Γαλλικό γραμματόσημο, που εκδόθηκε στις 25 Οκτωβρίου 1943.

Fig. 16: Ambroise Paré on a French Stamp, issued on October 25, 1943.

άνω επιφάνεια της πρόθεσης (περιοχή του αποφρακτήρα), μπορούσε να προσαρμοσθεί ένας στεγνός σπόγγος, έτσι ώστε όταν ο στεγνός σπόγγος εισερχόταν στην υπερώια κοιλότητα και εφυγραινόταν, διογκωνόταν και συγκρατούσε την πρόθεση στην θέση της.

Ο Ambroise Paré (Εικ. 14) υπήρξε πολυγραφότατος ιατρικός συγγραφέας, εκδίδοντας 29 σύντομα εγχειρίδια και 3 πραγματείες, περιγράφοντας κυρίως την προσωπική του εμπειρία σε διάφορα ιατροχειρουργικά θέματα, γράφοντας όμως στην γαλλική γλώσσα και όχι στα λατινικά, που αποτελούσε την αποδεκτή επιστημονική γλώσσα από πλευράς ακαδημαϊκής ιατρικής. Το γεγονός αυτό κατέστησε τα βιβλία του περισσότερο προσιτά και δημοφιλή στους φοιτητές της ιατρικής, αλλά και στο ευρύτερο κοινό, ενώ όλο το συγγραφικό του έργο συγκεντρώθηκε σε ένα τόμο, ο οποίος εκδόθηκε το 1575 με τον τίτλο "Les Oeuvres de M. Ambroise Paré" (Τα Έργα του κ. Ambroise Paré) (Εικ. 15), αφιερούμενος στον Βασιλέα Ερρίκο Γ'. Αξιοσημείωτο επίσης είναι ότι εκτός από τις προσωπικές του παρατηρήσεις και απόψεις, ο Ambroise Paré συγκέντρωσε στο μνημειώδες αυτό έργο του όλη την ιατρική και χειρουργική γνώση της εποχής του, μνημονεύοντας 173 συγγραφείς, συμπεριλαμβανομένων των Αρχαίων Ελλήνων, Ρωμαίων,

including the Ancient Greek, Roman, Persian and Arab classics (Hippocrates, Plato, Celsus, Galen, Rhazes, Avicenna), but also quoting views from works of his contemporary physicians Vesalius (Andries van Wesel, 1514-1564) and Fallopius (Gabriele Falloppio, 1523-1562), emblematic figures of Anatomy and Medicine of the 16th century, while the illustration of his book was impressive including 320 engravings and drawings.

Ambroise Paré passed away on December 20, 1590 (Fig. 16), leaving as a legacy his important contribution to the relief of the suffering fellow human being, characterized by a spirit of humility and offering, as expressed in his saying "Je le pansai, Dieu le guérit" (I bandaged him, God healed him) (Fig. 17).

The filistor
(Dr Dr Anastassios I. Mylonas,
DMD, PhD, PhD, MD)



Εικ. 17: Αγαλμα του Ambroise Paré, φιλοτεκνημένο από τον Γάλλο γλύπτη Pierre-Jean David (David d'Angers) (1788-1856), το οποίο τοποθετήθηκε το 1840 στην Place du 11 Novembre (Πλατεία της 11ης Νοεμβρίου) της γενέτειράς του Laval, με την χαρακτηριστική του ρήση στην βάση του αγάλματος "Je le pansai, Dieu le guérit" (Τον επίδεσα, τον θεράπευσε ο Θεός).

Fig. 17: Statue of Ambroise Paré, created by the French sculptor Pierre-Jean David (David d'Angers) (1788-1856), placed in 1840 in Place du 11 Novembre (Square of November the 11th) of his birthplace Laval, with his characteristic saying at the base of the statue "Je le pansai, Dieu le guérit" (I bandaged him, God healed him).

Περσών και Αράβων κλασικών (Ιπποκράτης, Πλάτων, Κέλσος, Γαληνός, Ραζής, Αβικένας), αλλά και παραθέτοντας απόψεις από έργα των συγχρόνων του ιατρών Vesalius (Andries van Wesel, 1514-1564) και Fallopius (Gabriele Falloppio, 1523-1562), εμβληματικών μορφών της Ανατομίας και της Ιατρικής του 16ου αιώνα, ενώ η εικονογράφηση του βιβλίου του υπήρξε εντυπωσιακή συμπεριλαμβάνοντας 320 γκραβούρες και σχέδια. Ο Ambroise Paré απεβίωσε στις 20 Δεκεμβρίου 1590 (Εικ. 16), αφήνοντας ως παρακαταθήκη την σημαντική συμβολή του στην ανακούφιση του πάσχοντος συνανθρώπου, χαρακτηριζόμενος από ένα πνεύμα ταπεινώσης και προσφοράς, όπως εκφράσθηκε με την ρήση του "Je le pansai, Dieu le guérit" (Τον επίδεσα, τον θεράπευσε ο Θεός) (Εικ. 17).

Ο φιλίστωρ

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Οδηγίες για τους συγγραφείς

Το περιοδικό ακολουθεί τις υποδείξεις της Διεθνούς Επιτροπής των Εκδοτών Ιατρικών Περιοδικών (BMJ 302: 338-341, 191).

Η έκδοση του Περιοδικού είναι δίγλωσση, Ελληνική και Αγγλική. Την μετάφραση των επιστημονικών εργασιών στα Αγγλικά ή Ελληνικά αναλαμβάνει η Συντακτική Ομάδα του Περιοδικού ενώ είναι ευπρόσδεκτες και οι μεταφρασμένες εργασίες. Το περιοδικό δέχεται πρωτότυπες εργασίες που αφορούν θέματα κυρίως Στοματικής και Γναθοπροσωπικής Χειρουργικής, αλλά και συναφών γνωστικών αντικειμένων όπως Στοματολογίας, Διαγνωστικής και Ακτινολογίας, Αναισθησιολογίας και Εμφυτευματολογίας.

Οι ακόλουθοι τύποι επιστημονικών εργασιών γίνονται δεκτές, αφού προηγηθεί κρίση τους από την Επιστημονική Ομάδα του περιοδικού:

- A) Βιβλιογραφικές Ανασκοπήσεις συνολικής έκτασης μέχρι 20 δακτυλογραφημένες σελίδες,
- B) Ερευνητικές Εργασίες, κλινικές και εργαστηριακές, μέχρι 10 σελίδες
- Γ) Ενδιαφέρουσες Περιπτώσεις καλά τεκμηριωμένες, μέχρι 4 συνολικά σελίδες. Δημοσιεύονται επίσης επιστολές προς τον Διευθυντή Σύνταξης, καθώς και ολιγόλογες εργασίες- προτάσεις για τη στήλη «Πρακτικές Λύσεις και Τεχνικές».

Οι εργασίες που υποβάλλονται δε θα πρέπει να έχουν δημοσιευθεί ούτε να βρίσκονται υπό κρίση για δημοσίευση σε άλλα περιοδικά, ενώ ο Διευθυντής Σύνταξης διατηρεί όλα τα δικαιώματα (copyright) των εργασιών που έγιναν δεκτές και πρόκειται να δημοσιευθούν στο περιοδικό.

Προς τον Διευθυντή Σύνταξης αποστέλλεται όλο το υλικό της εργασίας σε ηλεκτρονική μορφή με e-mail (το κείμενο θα πρέπει να είναι δακτυλογραφημένο με διπλό διάστημα) σε αρχείο Microsoft Word.

Πιο συγκεκριμένα για κάθε εργασία υποβάλλονται τα ακόλουθα μέρη που αρχίζουν σε ξεχωριστή σελίδα:

- Επιστολή υποβολής εργασίας στον Διευθυντή Σύνταξης
- Σελίδες τίτλου
- Περίληψη και Λέξεις - κλειδιά
- Κυρίως κείμενο
- Βιβλιογραφία
- Πίνακες - Εικόνες - Λεζάντες φωτογραφιών
- Βεβαίωση αποδοχής δημοσίευσης της εργασίας από όλους τους συγγραφείς
- **Οι σελίδες τίτλου περιέχουν στα Ελληνικά και Αγγλικά:**

- a) Μια σελίδα με τον τίτλο του άρθρου μόνο (για τους κριτές)
 - β) Μια σελίδα με όλες τις πληροφορίες για την εργασία: τον τίτλο, το ονοματεπώνυμο και τους επιστημονικούς τίτλους των συγγραφέων, το κέντρο απ' όπου προέρχεται η εργασία και τον Διευθυντή του, τα στοιχεία (όνομα, διεύθυνση, τηλέφωνο, fax και e-mail) του συγγραφέα που είναι υπεύθυνος για την αλληλογραφία. Αναφέρονται επίσης τυχόν πηγές χρηματοδότησης της εργασίας και ευχαριστίες.
- Η Περίληψη και οι λέξεις - κλειδιά στα Ελληνικά και Αγγλικά περιέχουν:**
- Σύντομη παρουσίαση της εργασίας (μέχρι 200 λέξεις). Στις Βιβλιογραφικές Ανασκοπήσεις η περίληψη αναφέρει εν συντομία το περιεχόμενο της ανασκόπησης. Στις Ερευνητικές Εργασίες η περίληψη είναι δομημένη, με εισαγωγή, σκοπό, υλικό, μέθοδο, αποτελέσματα και συμπεράσματα. Στις Ενδιαφέρουσες Περιπτώσεις η περίληψη περιλαμβάνει μικρή εισαγωγή και περιγραφή της περίπτωσης. Στο τέλος της περιλήψης αναγράφονται οι λέξεις - κλειδιά.

Το κυρίως κείμενο ανάλογα με το τύπο της εργασίας περιέχει τα ακόλουθα:

- A) Βιβλιογραφικές Ανασκοπήσεις: η εργασία χωρίζεται σε κεφάλαια με αντίστοιχους τίτλους ανάλογα με το θέμα και κατά την κρίση των συγγραφέων. Η εργασία ολοκληρώνεται με τα συμπεράσματα.
 - B) Ερευνητικές Εργασίες: η εργασία περιλαμβάνει εισαγωγή, σκοπό, υλικό και μέθοδο, αποτελέσματα, συζήτηση και συμπεράσματα.
 - Γ) Ενδιαφέρουσες Περιπτώσεις: η εργασία περιλαμβάνει εισαγωγή, περιγραφή της περίπτωσης και συζήτηση - συμπεράσματα.
- Δεν πρέπει να αναφέρονται στο κείμενο πληροφορίες για την προέλευση της εργασίας, προκειμένου να αποστέλλεται στους κριτές ανώνυμα.
- Οι βιβλιογραφικές παραπομπές στο κείμενο θα πρέπει να παρτίθενται στο κείμενο κατά σειρά αναφοράς, με αραβικούς αριθμούς, σε παρενθέσεις («()»), πριν τα σημεία στίξης. Για παράδειγμα, ή «.....» η σύγχρονη θεραπεία του γιγαντοκυτταρικού όγκου των γνάθων περιλαμβάνει την εκπαρτήση και απόξεση (1), το denosumab (2) και(3)». Η αναφορά σε περιλήψεις συνεδρίων (abstracts), «αδημοσίευτες παρατηρήσεις» (unpublished data), και «προσωπικές επικοινωνίες» (personal communication) θα πρέπει να αποφεύγονται καθώς δεν μπορεί να ελεγχθεί η εγκυρότητά τους. Η παράθεση των βιβλιογραφικών αναφορών στη

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The triannual medical journal "Hellenic Archives of Oral and Maxillofacial Surgery - HAOMS" is the official journal of the Hellenic Association for Oral & Maxillofacial Surgery, and it is a forum for medical and dental scientists. Its official languages are English and Greek and publishes articles on basic, clinical and epidemiological research, as well as interesting case reports with literature review and letters. Topics of interest include but are not limited to Oral & Maxillofacial Surgery, Oral Surgery, Oral Medicine, Oral Pathology, Head & Neck Oncology, Ear-Nose-Throat Surgery, Plastic and Reconstructive Surgery, Dermatological Oncology, Dermatology, Craniofacial Surgery, Neurosurgery. Thematology of submitted articles should be of interest to Medical and Dental practitioners who are competent in diagnosing and treating pathologies of the maxillofacial / head & neck region.

Publication is free of charge. HAOMS journal will consider for publication:

1. Editorials and invited keynote articles.
2. **Systematic Review articles.** These should adhere to the principles of Evidence Based Medicine and follow the PRISMA Guideline and its extensions. They must include a structured abstract, which should be less than 300 words long. The article should be no more than 4000 words long excluding the references (we recommend minimum 30 and preferable 40 for systematic reviews).
3. **Original articles.** These should be of experimental, clinical or epidemiological character. They should include: a structured abstract, introduction, in which the recent developments on the subject of the research and the scope for the undertaken study should be reported; description of the Material and Methods; report of the Results; and Discussion, which should include the conclusions of the study. The article should be no more than 3200 words long excluding references (we recommend minimum 20 and preferable 30 for original articles).
4. **Case Report articles with Systematic Review.** Rare clinical cases with interesting presentation, diagnosis or treatment should be described in them. To document the rarity of the case a systematic review of the relevant literature is obligatory for a case report to qualify as a full text article. They should include Abstract; short Introduction, Description of case, Systematic Review including a table summary of already published cases and a short Discussion (we recommend minimum 15 and preferable 25 references for Case Report Articles).
5. **Letters to the Editor** should be concise and less than 1000 words [up to 1 figure (with sub-legends) / table allowed]. Case reports may also be submitted as letters to the editor (up to 10 references).
6. **Glances in the History of Medicine.** Short articles submitted in either Greek or English, referring to the History of Oral & Maxillofacial Surgery and neighboring medical specialties.
7. The editorial board of the journal has the right to publish the abstracts of Congresses, Seminars etc.

All reported clinical trials must have been registered in an international Clinical Trial Registry, and the registration number must be provided. Reports of randomized trials must conform to the revised CONSORT guidelines, and should be submitted with their protocols. Randomized trials that report harms must be described according to the extended CONSORT guidelines. Studies of diagnostic accuracy must be reported according to the STARD guidelines. Observational studies (cohort, case-control, or cross-sectional designs) must be reported according to the STROBE statement. Genetic association studies must be reported according to the STREGA guidelines. Systematic reviews and meta-analyses must be reported according to the PRISMA guidelines. Case reports and case report letters should adhere to the CARE Guideline and its extensions. HAOMS Journal endorses the EQUATOR Network.

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- a. On the title page provide the title of the article, list each author's name and institutional affiliation, and indicate the corresponding author. In case, the study has been reported in abstract form elsewhere, indicate the respective scientific meeting.
- b. On the abstract page provide the abstract (background, methods, results, conclusions) and 3-7 key-words.

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Παράδειγμα βιβλιογραφικής αναφοράς σε άρθρο:

Karthik S, Vaswani DM, Arasu M et al.: A comparative study of the effects of the anterior disc displacement with reduction and without reduction on the components of the temporomandibular joint by using magnetic resonance imaging – A Retrospective study. Hellenic Archives of Oral & Maxillofacial Surgery 2021;22:73

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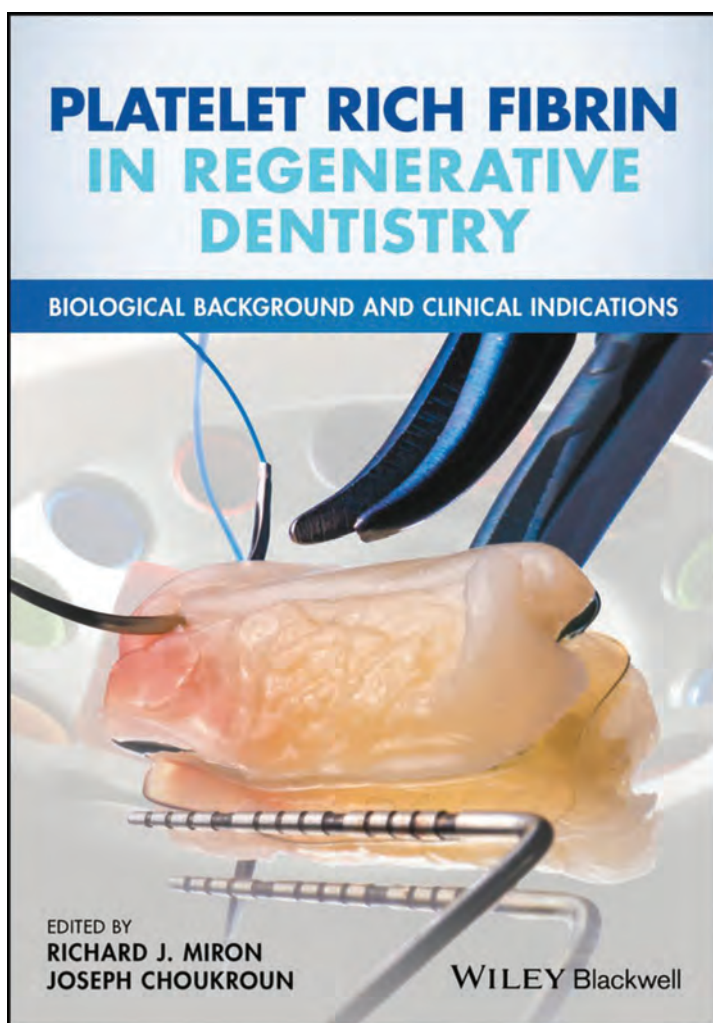
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Platelet Rich Fibrin in Regenerative Dentistry: Biological Background and Clinical Indications

Richard J. Miron (Editor), Joseph Choukroun (Editor)

288 pages

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ΤΙΜΗ: 130€

Περιλαμβάνονται τα έξοδα αποστολής και ο ΦΠΑ

Description

The first book devoted exclusively to the subject, Platelet Rich Fibrin in Regenerative Dentistry offers comprehensive, evidence-based coverage of the biological basis and clinical applications of PRF in dentistry. Co-edited by a leading researcher in tissue regeneration and the inventor of the PRF technique, it brings together original contributions from expert international researchers and clinicians.

Chapters cover the biological foundation of PRF before addressing specific uses of the technology within clinical dentistry. Topics describe the use of PRF in many dental applications, including extraction socket management, sinus lifting procedures, root coverage, periodontal regeneration, soft tissue healing around implants, guided bone regeneration, and facial esthetics. The text is supplemented with color photographs and explanatory illustrations throughout.

Platelet Rich Fibrin in Regenerative Dentistry: Biological Background and Clinical Indications is an indispensable professional resource for periodontists, oral surgeons and oral and maxillofacial surgeons, as well as general dentists who use PRF or are interested in introducing it into their practices. It is also an excellent reference for undergraduate and postgraduate dental students.

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Δρ. ΠΑΝΑΓΙΩΤΑ Ε. ΝΤΟΚΟΥ
ΠΕΡΙΟΔΟΝΤΟΛΟΓΟΣ

Το βιβλίο αυτό αποτελεί μια μονογραφία στο πολύ ενδιαφέρον και επίκαιρο θέμα της περιεμφυτευματίτιδας, το οποίο απασχολεί έντονα την Οδοντιατρική κοινότητα σε διεθνές επίπεδο.

Ο συγγραφέας, Αναπληρωτής Καθηγητής του Εργαστηρίου Περιοδοντολογίας της Οδοντιατρικής Σχολής ΕΚΠΑ, Ιωάννης Κ. Καρούσης προσεγγίζει το θέμα της περιεμφυτευματικής παθολογίας μέσα από την εικοσαετή εμπειρία και ενασχόλησή του σε κλινικό και ερευνητικό επίπεδο και παραθέτει το σύνολο των πληροφοριών που πρέπει να γνωρίζει ο φοιτητής και ο Οδοντίατρος, είτε γενικός είτε εξειδικευμένος για το πολύ σύγχρονο αυτό ζήτημα το οποίο αφορά εκατομμύρια ασθενείς σε παγκόσμια κλίμακα.

Η συγγραφή, έγινε με τη συνεργασία της Περιοδοντολόγου, αποφοίτου του Μεταπτυχιακού Προγράμματος Περιοδοντολογίας της Οδοντιατρικής Σχολής ΕΚΠΑ, Δρ. Παναγιώτας Ντόκου.



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