

Editorial

Why publish negative results?

Many experimental results never see the light of publication day. For a large number of these, it comes down to the data being “negative”, i.e. the expected and/or wanted effect was not observed. Publication bias occurs when there is publication of favourable research results. Positive-results bias occurs when authors are more likely to submit, or editors to accept, positive results than negative or inconclusive results. Negative results are important for the broader field where they are relevant, helping to interpret positive results that may have been obtained in related studies.

The issues surrounding the negative finding culture are certainly gaining traction. Nonetheless, publication bias is still an issue, indicating that a shift in the scientific culture is required. The reporting of negative results can help other scientists adjust their research plans and increase their chances of success. It is imperative to publish negative results from well-planned research. Let us envision situations where a number of research groups come together and propose potential future solutions for tackling the problem.

Dr. Sameera G. Nath

Executive Editor

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ASPERGILLOSIS: A BRIEF REVIEW

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Abstract

Aspergillosis is a large spectrum of fungal diseases, caused by the members of the genus *Aspergillus*. It forms the second most common opportunistic infection in immunocompromised patients after candidiasis. It ranges from allergic sinusitis, fungus balls to fulminating infections. Despite advances in therapy, the invasive forms of aspergillosis are often associated with significant morbidity and mortality. Successful treatment of aspergillosis requires prompt diagnosis and rapid execution of therapy, as delayed therapy can result in lethal consequences.

Key Words: Aspergillosis, fruiting body, fungal ball, hyphae

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Introduction

Humans are exposed to hundreds of fungal spores daily, usually not producing any harmful effect on their health. This protection is by various pulmonary defense mechanisms that effectively eliminate the fungal spores.¹ In only a minority of people; the infection can cause significant morbidity. The clinical manifestations of Aspergillosis are determined by the host immune response to the organism ranging from local inappropriate inflammatory response to local saprophytic lung disease to catastrophic systemic *Aspergillus* spp dissemination.²

Coccidioides immitis, *histoplasma capsulatum*, *Blastomyces dermatitidis*, *Paracoccidioides brasiliensis* and dermatophyte fungi can infect healthy, immunocompetent individuals. By contrast, species such as

Candida, *Aspergillus*, *Rhizopus* and *Fusarium* are normally avirulent in healthy people, but can cause disseminated fatal infections in patients with suppressed immunity. These are called opportunistic pathogenic fungi. *Aspergillus* has been reported as the second most prevalent opportunistic fungal infection.¹

Aspergillus is a ubiquitous fungus and belongs to the ascomycete molds, which together with *penicillium* form the family of *Aspergillaceae*. The genus *Aspergillus* includes over 185 species, of which 20 have been reported as causative agents of opportunistic infections in human beings. Among these *Aspergillus fumigatus* is the most commonly isolated species, followed by *A.favus*, *A.niger*, *A.clavatus*, *A.glaucus*, and *A.nidulans* and less commonly *A.versicolor*.

The general morphology of the genus demonstrates septate hyphae and conidiophores-specialized aerial hyphae that bear conidia (spores). The conidiophores have swollen rounded ends (vesicles) and the spores are formed in chains on elongated cells called sterigmata. The interspecies difference in morphology is useful in identification (Fig 1).³

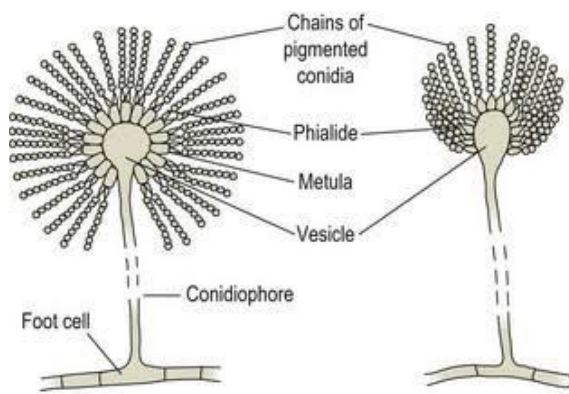


Fig1: Aspergillus spp. (a)A.fumigatus b)A.niger

Aspergillus species are commonly found in humid areas, damp soil or agricultural environment, on grain, cereal, moldy flour, and organic decaying or decomposing matter.^{1,4} *Aspergillus* is the most common fungal pathogen in sinus disease. Spores are introduced by inhalation, and are frequent inhabitants of the human upper respiratory tract.⁵ An infection commonly isolated in the lungs of immunocompromised patients and occasionally as a destructive lesion of the maxillary sinuses, anterior palate, and nasal passages are the result of the inhalation of spores of *Aspergillus*. A number of studies and experiences emphasize that aspergillosis of the paranasal sinuses also develop in people who are otherwise healthy.⁴ However; an invasive form in normal host is very rare.

In the hospital setting, construction activities, rotten leaves or insufficient cleaning of dust can increase the risk of developing aspergillosis.¹

Neutropenia, inappropriate use of antibiotics, immunosuppressive drug, corticosteroids, uncontrolled diabetes mellitus, Human Immuno Deficiency Virus infection, trauma, burns, radiation therapy, hematopoietic cell transplantation, aplastic-canemia, chronic granulomatous diseases, organ transplantation, polyps and stagnant secretions in the sinus can also develop fungal sinusitis.^{6, 7}

Classification

A). Hora et al (1965) classified aspergillosis broadly into invasive and non invasive forms.

B).Sarti and Lucenten (1988) classified aspergillosis as

- Allergic *Aspergillus* sinusitis
- Noninvasive type (fungal balls)
- Invasive type (similar to a malignant neoplasm with proptosis and facial mass)
- Fulminant type (which are angio invasive, rapidly destructive and lethal).

C). Rowe-Jones (1994)

A. Non-invasive

- a) Aspergilloma/fungal ball
- b) Allergic aspergillus sinusitis

B. Invasive (true fungal invasion)

C. Destructive non-invasive (locally destructive, no invasion)⁵

Pathogenesis

In the environment *Aspergillus* species are present as the mold form with formation of aerial hyphal stalks. The conidia formed by asexual reproduction are usually small and hydrophobic which aids in the aerosolization. After inhalation by the host, uncontrolled germination of conidia into hyphae in the lungs results in potentially angio invasive form of the mold. The size, hydrophobicity and cell wall pigments of the conidia are important for conidial dissemination and interaction with the host immune response.

Aspergillus hyphae invade the host tissues by the release of toxins. These includes various proteases, phospholipases, hemolysin, gliotoxin, aflatoxin, phthioic acid and other toxins.² Proteases secreted from the hyphae mediate tissue destruction, hinder immune response, and are also important in allergic manifestations of aspergillosis. *Aspergillus* spreads into blood vessel walls, resulting in secondary thrombosis and haemorrhage, leading to tissue necrosis and rapid systemic involvement.⁷

Clinical Presentation

Para nasal sinuses, larynx, eyes, ears and the oral cavity may be involved in primary aspergillosis. The most common symptoms of fungal sinusitis are headache, proptosis, rhinorrhea and ophthalmoplegia.⁶ *A. fumigatus* is the usual agent of sinus aspergillosis, whereas *A. flavus* is more common in invasive lesions in immunosuppressed individuals.¹ The first case aspergillosis of the para nasal sinus was described by Katzenstein in 1983.⁷

Aspergillus exhibits a centrifugal linear growth unless inhibited by natural or artificial barriers. This is why *Aspergillus* in the para nasal sinus eventually develops into a ball-shaped mass. The centre of the mass contains calcium phosphate and therefore mimics a foreign body on radiography.

In the oral cavity, aspergillosis lesions are yellow or black in color, with a necrotic ulcerated base, classically located on the palate or posterior tongue. The hyphal elements of the fungus may invade the walls of small to medium-sized blood vessels, finally leading to systemic spread.

There are mainly two clinical forms of Aspergillosis which includes local aspergilloma and disseminated aspergillosis. Local aspergilloma is a “fungus ball” which occurs within pulmonary cavities. It is composed of tangled mycelia, fibrin, and amorphous debris. Disseminated aspergillosis is commonly seen in cancer patients and others with compromised immune systems.⁸

Diagnostic Techniques

Diagnosis of oral aspergillosis depends on a combination of clinical, microbiological, and histologic characteristics. Potassium hydroxide preparations (KOH) shows the presence of fungal hyphae.^{9,10} Hematoxylin & eosin (H&E) staining and special stains including Grocott-Gomoi Methanamine Silver (GMS) (Fig 2) and Periodic Acid Schiff (PAS) (Fig 3) can be used.⁹

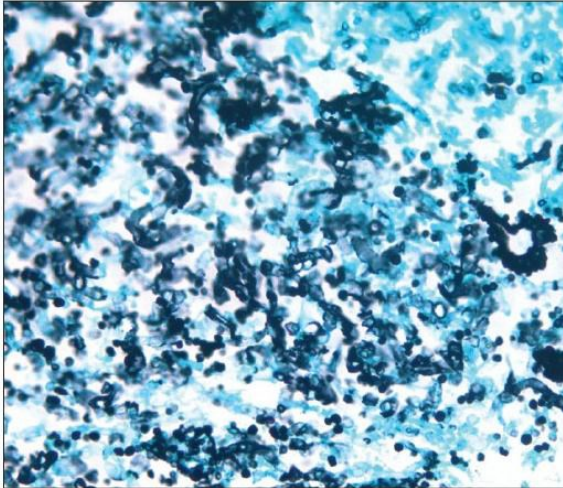


Fig 2: Photomicrograph showing fungal hyphae. (Methenamine silver stain, x 40)

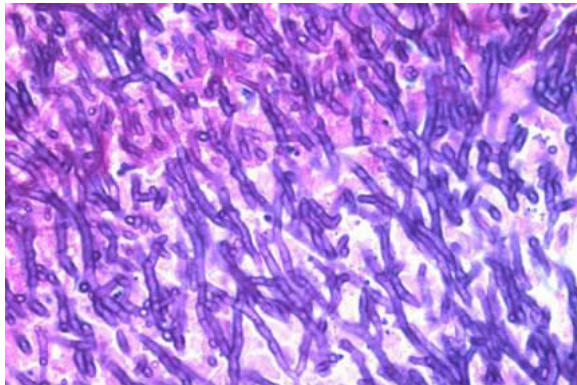


Fig 3: Photomicrograph showing fungal hyphae. (PAS, x 40) Picture courtesy: Google images

Non culture based diagnostic techniques have been recently developed .This includes the following;

A). Sandwich ELISA kit⁴-It detects the circulating galactomannan, an exo antigen of *Aspergillus*. It is advantageous in managing patients at the risk of invasive aspergillosis because of early detection. Antigen can also be detected in broncho alveolar lavage fluid and in cerebrospinal fluid.

B). Tachypleus/Limulus assay –It is a type of enzyme immune assay which detects soluble

antigen in the serum. It can detect as little as 0.5 to 1 ng/ml and has a specificity of 80.7%. To increase the sensitivity and specificity the test should be done prior to the initiation of anti-fungal therapy.

C). PCR (Polymerase Chain Reaction)- Amplifies *Aspergillus* specific fungal genes. Real Time PCR (RT-PCR) can be used effectively. A specific probe was first described by Loefflers in 2000. Nested PCR can be used where an initial product is subjected to a second round of reaction with new primers. It has a sensitivity of 88% and specificity of 75%.

D). Detection of Galactomannan (component of cell wall of *Aspergillus* species).⁹ Early detection of invasive aspergillosis, serial assessment of galactomannan antigenemia may facilitate therapeutic monitoring. But its sensitivity in neutropenic patients is lower. The test has an overall sensitivity of 71% and specificity of 80%.¹⁰

Histopathology

Histopathologically, invasive lesions show chronic granulomatous reactions. In hematoxylin and eosin-stained sections hyphal forms can be seen faintly in the center of an area of necrosis. The characteristic appearance of the fungus are shown in (Fig 1). Fruiting bodies are also seen (Fig 4).¹⁰⁻¹² *Aspergillus* has a tendency to invade blood vessels, therefore areas of hemorrhage and infarction are usually super-imposed on the necrotizing, inflammatory tissue reactions.¹³

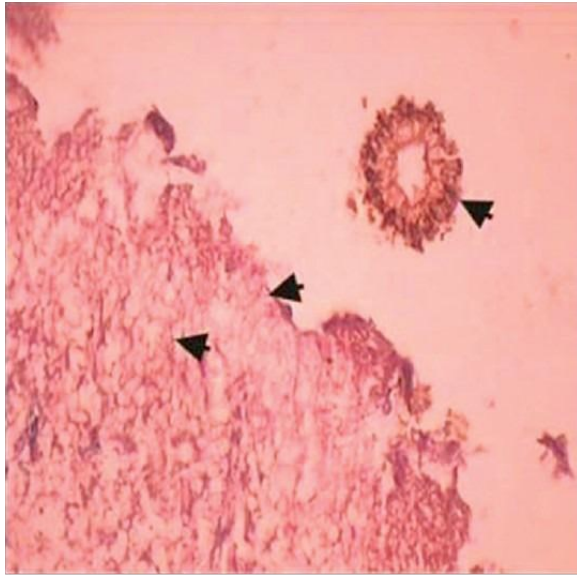


Fig 4: Photomicrograph reveals fungal hyphae and a fruiting body of an *Aspergillus* species (H and E, $\times 40$)³

Treatment

Treatment depends on the clinical presentation of aspergillosis. For immunocompetent patients with noninvasive aspergilloma, surgical debridement may be all that is necessary. For localized invasive aspergillosis in immunocompetent patient, debridement followed by antifungal medication is indicated. Immunocompromised patients should be treated by aggressive debridement of necrotic tissue, combined with systemic anti-fungal therapy.

Conclusion

Successful treatment of Aspergillosis requires prompt diagnosis and rapid institution of therapy, because delayed pharmaceutical intervention can result in spread of infection with lethal consequences. Better preemptive methods for early diagnosis and intervention are mandatory to improve patient outcome. The diagnosis of

aspergillosis in humans relies heavily on the clinical circumstances of the infection, the anatomic site, and the microscopic findings. Early recognition of the disease, differentiating it from malignant lesions and other granulomas of the sinuses are very important as its presentations are very deceptive and misleading.

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IRRIGANT ACTIVATION SYSTEMS IN ENDODONTICS: A REVIEW

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*****Dr. Mohammed Ashik P , *****Dr. Nithu Marina Terence

Abstract

The aim of endodontic therapy is the debridement of all vital or necrotic tissue, microorganisms, and their products from the root canal system. This may be accomplished by chemo mechanical debridement of root canal. However, irregular and oval canal cross-sections, accessory canals, isthmuses, fins, curves and apical delta make chemo mechanical debridement difficult. Thus irrigation of root canal system becomes very essential. Various irrigants and irrigation systems have been introduced. This review article features the newer advances in irrigation systems for better debridement of complex root canal system.

Key Words: irritant activation system, endodontics, review

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Introduction

In the hierarchy of cleaning and shaping of root canal systems, root canal irrigants are indispensable aids in dissolving and activating organic debris and destroying microorganisms. It is well established that even with the use of rotary nickel-titanium instruments currently available, central body of the canal, canal fins, isthmi and cul-de-sacs remain untouched that harbors tissue debris, microbes and their byproducts which might prevent close adaptation of the obturating material and result in persistent periradicular inflammation. Thus irrigation is the benchmark as it can reach where instruments cannot.

Throughout the history of endodontics, endeavors have continuously been made to develop more effective irrigant delivery and agitation systems for root canal

irrigation. These systems might be divided in to two broad categories-manual agitation technique and machine assisted agitation devices. The objective of this review was to present an overview of contemporary irrigant agitation methods available in endodontics.¹

➤ Manual Irrigation Techniques

Syringe Irrigation with Needles/Cannulas

The technique involves dispensing of an irrigant into a canal through needles/cannulas of variable gauges, either passively or with agitation. The latter is achieved by moving the needle up and down the canal space. 27 gauge needle is the preferred needle tip size for routine endodontic procedures.^{2,3}

Needle-tip design: Several modifications of the needle tip designs(Fig 1) have been

introduced in recent years to facilitate effectiveness and minimize safety risks.

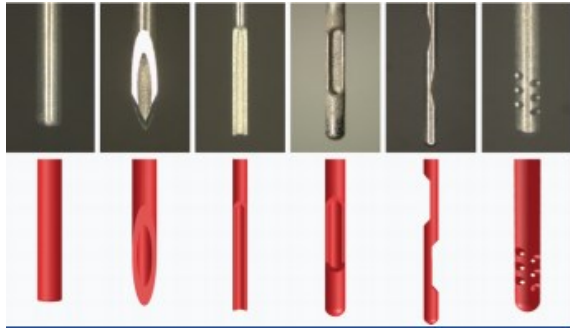


Fig 1: (A-C) Open-ended needles: (A) flat (NaviTip; Ultradent, South Jordan, UT), (B) beveled (PrecisionGlide Needle; Becton Dickinson & Co, Franklin Lakes, NJ), and (C) notched (Appli- Vac Irrigating Needle Tip; Vista Dental, Racine, WI). (D-F) Closed-ended needles.

Max-i-probe is a modified regular manual irrigation needles with a well-rounded, close tip and side-port venting. This needle is available from 21 to 30 gauges. It has the luer lock connector.⁴ The rounded tip prevents the risk of perforating the apex and the dispersal of the irrigating solution through the side-port creates a unique upward turbulent motion, which thoroughly irrigates the root canal but prevents solution and debris from being transported through the periapical foramen.⁵⁻⁸

Brushes

They are adjuncts that have been designed for debridement of the canal walls or agitation of root canal irrigant.⁹ Recently, a 30-gauge irrigation needle covered with a brush (NaviTip FX; Ultradent Products Inc, South Jordan, UT) was introduced commercially.

Navi Tip Fx: Here brush is incorporated for debridement of the canal

walls and agitation of root canal irrigant which was helpful in improved cleanliness of coronal third when compared to brushless NaviTip needle.⁽¹⁰⁾ The drawback is Navi Tip FX brush bristles may dislodge inside the canal irregularities and because of its radiolucent nature it is very difficult to identify radiographically or even with the use of a surgical microscope.^{7,9}

Endobrush: Endobrush (C&S Microinstruments Ltd, Markham, Ontario, Canada) is a spiral brush designed for endodontic use that consists of nylon bristles set in twisted wires with an attached handle and has a relatively constant diameter along the entire length. However, the Endobrush could not be used to full working length because of its size, which might lead to packing of debris into the apical section of the canal after brushing.⁸

Manual Dynamic Irrigation:

Manual dynamic irrigation describes the irrigation technique which involves repeated insertion of irrigant and a well fitting gutta-percha cone to working length of a previously shaped canal.⁹ It is a cost effective technique for irrigation.

➤ Mechanical Agitation Techniques

The manual needle irrigation systems allow good control of needle depth and the volume of irrigant that is flushed through the canal. However, the mechanical flushing action created by conventional hand-held syringe needle irrigation is relatively weak as the inaccessible canal extensions and irregularities are likely to harbour debris and

bacteria, thereby making thorough canal debridement difficult.¹⁰ These drawbacks of conventional hand held syringe needle irrigation lead to the development of machine assisted irrigation systems

Brushes

1. Rotary Brush:- A rotary handpiece—attached microbrush has been used. The brush includes a shaft and a tapered brush section. It has multiple bristles extending radially from a central wire core. During the debridement phase, the microbrush rotates at about 300 rpm, causing the bristles to deform into the irregularities of the preparation. This helps to displace residual debris out of the canal in a coronal direction. Example: Ruddle brush
2. Canal Brush: This highly flexible micro brush has been made entirely from polypropylene and might be used manually with a rotary action.⁹

➤ Continuous Irrigation During Rotary Irrigation

The Quantec-E irrigation system (SybronEndo) is a self-contained fluid delivery unit. It is attached to the Quantec-E Endo System and uses a pump console, two irrigation reservoirs and tubing. This provides continuous irrigation during rotary instrumentation.

Sonic Irrigation

Sonic instruments for Endodontics were first reported by Tronstad et al. Sonic irrigation operates at a lower frequency (1–6 kHz) and produces smaller shear stresses than ultrasonic irrigation.¹⁰ The Endo Activator is

one form of the sonic irrigation used in Endodontics.



Fig 2: Endo Activator System

The Endo Activator System (Dentsply Tulsa Dental Specialties) consists of a cordless, contra- angled, three-speed, battery operated handpiece and 3 types of disposable polymer tips of different sizes. The tips are made from a medical-grade polymer and are claimed to be strong and flexible and do not break easily. They are color-coded as yellow, red, and blue, closely corresponding to sizes 15/02, 25/04, and 35/04, respectively. Vibrating the tip at 10,000 cycles per minute (cpm) along with moving the tip up and down in short vertical strokes, produces a powerful hydrodynamic phenomenon. This hydrodynamic action can improve the penetration, circulation, and flow of irrigant into the more inaccessible regions of the root canal system.^{11,12}

Vibringe (Vibringe BV, Amsterdam, The Netherlands) is a new sonic irrigation system that combines battery-driven vibrations (9000 rpm) with manually operated irrigation of the root canal. Vibringe uses the traditional type of syringe/needle delivery but adds sonic vibration.



Fig 3: Vibringe

Ultrasonic Irrigation

A needle-holding adapter to an ultrasonic handpiece has been developed by Nusstein. A 25-gauge irrigation needle is used rather than an endosonic file. An irrigant is delivered from tubing under a continuous flow, connected via a Luer-lok to an irrigation-delivering syringe.

There are two types of ultrasonic irrigation. 1) combination of simultaneous ultrasonic instrumentation and irrigation (UI). 2) Irrigation without simultaneous instrumentation which is referred to as passive ultrasonic irrigation (PUI).¹¹

When ultrasonic activated files are used along with irrigation, canal deviations, apical zips and radicular perforations can occur, especially in curved canals. It is therefore been discarded in the clinical practice. The term PUI was first used by Weller et al. in 1980. Passive ultrasonic irrigation is more advantageous as it reduces the potential for creating aberrant shapes in the root canal system. After activation, energy is transmitted from a file or smooth oscillating wire to the irrigant by means of ultrasonic waves. This causes two types of

physical phenomena: Acoustic stream and cavitation.

The acoustic stream is a rapid movement of the fluid in a circular or vortex shape around the vibrating file/wire. Cavitation is the creation of steam bubbles or the expansion, contraction and/or distortion of preexisting bubbles in a liquid.¹¹



Fig 4: Self Adjusting File- VATEA System

The (Self adjusting file) SAF is the first file that does not have a solid metal shaft. The VATEA system is an irrigation device and forms an integral part of SAF. The VATEA system is a self-contained, peristaltic pump. It is a built in irrigant reservoir of 500 mL operated using a foot switch and powered by a rechargeable battery. The SAF file has a freely rotating hub connected to a polyethylene tube. Irrigation solution is pumped from the VATEA's reservoir to this tube which allows the flow of the irrigant through the hollow file to the root canal. The flow rate at which the irrigant can be delivered into the tube ranges from 1-10 mL per minute, with recommended setting of 4 mL per minute. The SAF System is based on a no pressure irrigation system that is active throughout the instrumentation process.^{13,14} SAF can be more effective for

irrigating curved canals, oval canals and c-shaped canals.¹⁵

➤ Pressure Alternation Devices

The RinsEndo irrigation system and the EndoVac irrigation system are examples of negative-pressure irrigation.



Fig 5: Rinsendo Irrigation system

This system irrigates the canal by using pressure-suction technology. It includes a handpiece, a cannula with a 7 mm-long exit aperture, and a syringe carrying irrigant.¹⁰ The handpiece has an irrigation speed of 6.2 ml/min. From an attached syringe, 65 mL of a rinsing solution oscillating at a frequency of 1.6 Hz is transported to the canal via an adapted cannula. Used solution and air are recollected from the root canal and automatically merged with fresh rinsing solution during suction phase. The pressure-suction cycles continue for approximately 100 times per minute.⁷ The pulsating nature of the fluid flow, helps to rinse the apical third of the canal, with the cannula restricted to the coronal third of the root canal. However it is found to be less effective in

removing the stained collagen from root canal walls and has high risk of apical extrusion of irrigant.¹⁰

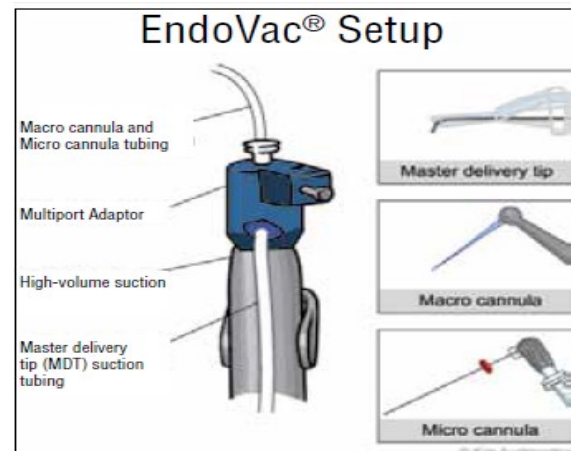


Fig 6: Endovac apical negative pressure System

The EndoVac irrigation system (Discus Dental, Culver City, Calif.) was designed by Dr. G. John Schoeffel and developed to irrigate and remove debris to the apical constricture without forcing solution out the apex into the periapical tissue. It contains three basic components: 1) a Hi-Vac adapter assembly that connects to the high volume evacuation hose in the dental operator at one end and has a “T” connector at the other end which permits a Master Delivery irrigation- suction tip (MDT) with a disposable syringe filled with irrigation solution, 2) the Macrocannula and 3) the Microcannula.

The MDT delivers irrigant and used for suction of irrigants up to the middle part of the canal. The Macro cannula is utilized to remove coarse debris after instrumentation and is used in combination with the Master Delivery Tip. The Micro cannula in the canal exerts negative pressure which pulls the irrigant down the canal to the tip of the

cannula, into the cannula, and out through the suction hose. Thus, a fresh irrigant is being delivered continuously by negative pressure to working length and apical negative pressure helps to overcome the issue of apical vapor lock.¹⁵

Endo Irrigator Plus (K Dent Dental System): This product is invented and designed by Dr Mandar Pimprikar. It is based on ACWIS concept, i.e. Activated Continuous Warm Irrigation and evacuation System. This device creates positive and negative pressure inside the canal and gives a perfect cleaning and disinfection of root canal assisted by negative and positive pressure with warm Sodium hypochlorite.^{1,13}

Conclusion

Despite the plethora of studies on the effectiveness of various endodontic irrigant agitation regimens, it is noteworthy that none of the system is accurate that can increase clinical efficacy of the treatment outcome. There is a need to determine from a practice management perspective how these devices are perceived in terms of their practicality and ease of use. Understanding these fundamental issues is crucial for clinical scientists to improve the design and make it more user friendly in future generations of irrigant agitation systems.

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ERUPTION OF PALATALLY IMPACTED CANINE USING AN APICALLY REPOSITIONED FLAP AND ELASTIC TRACTION FORCE: A CASE REPORT

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Abstract

Impacted canines are one of the frequently encountered clinical problem requiring an interdisciplinary approach. The incidence of canine impaction in the maxilla is more than twice that in the mandible. Most of the time, palatal displacement of the maxillary canine results in impaction. This article focus on a case with impacted maxillary canine treated successfully through interdisciplinary approach.

Keywords: Impacted canine, fixed orthodontic treatment, apically displaced flap

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Introduction

Impacted canines are one of the frequently encountered clinical problem requiring an interdisciplinary approach. The treatment of impacted canines involves surgical exposure of the tooth, followed by orthodontic traction to guide and align them into the dental arch. Some of the most common complications involve bone loss, root resorption, and gingival recession around the treated teeth.¹ Maxillary canines are the most commonly impacted teeth, second to third molars. Maxillary canine impaction occurs in approximately 2% of the population and is twice more common in females than in males. The incidence of canine impaction in the maxilla is more than twice that in the mandible.²

Approximately one-third of impacted maxillary canines are located labially and two-thirds are located palatally.³ Canine impaction can be caused by various factors. The exact etiology of palatally displaced maxillary canines is unknown. The results of Jacoby's study showed that 85% of palatally impacted canines had insufficient space for eruption, whereas only 17% of labially impacted canines had insufficient space. Therefore, arch length discrepancy is thought to be a primary etiologic factor for labially impacted canines.⁴ Several etiologic factors for canine impactions have been proposed: localized, systemic, or genetic. Most of the time, palatal displacement of the maxillary canine results in impaction.⁵

Case Report

A 17-year-old male seeking orthodontic treatment presented with a Class I molar occlusion, Class II canine relation on right, midline shift of 2mm to left, cross bite of 24 retained primary upper left canine, an unerupted upper left permanent canine, overjet of 8mm and overbite of 4mm (Fig. 1). Radiographs confirmed the diagnosis of a palatally displaced maxillary left canine, which had probably impeded the eruption of the permanent canine (Fig 2). Treatment was planned with .022 slot MBT prescription bracket. The planned archwire sequence started with .012" in lower, .016" in upper, .017" × .025", and .019" × .025" NiTi wires, followed by .019" × .025" stainless steel and .022" × .025" TMA wires.

Treatment Progress

After two months of aligning, open coil spring is applied to create space for left canine. An apically displaced flap was opened to expose the canine, after obtaining sufficient space for canine. (Fig.3a) Begg bracket was bonded on the cusp tip of canine, and the bonded bracket was ligated to archwire with ligature wire incorporating an elastic module to provide an elastic tractional force (Fig. 3b). When more than one third of the crown has emerged out, a .012" NiTi wire was given as piggy-back on a .017" × .025" stainless steel wire. Since the crown is distopalatally rotated, couple was given along with it for one appointment for correcting the alignment of tooth (Fig 4). Once sufficiently erupted, the crown of the impacted canine was bonded with MBT

canine bracket to finish the occlusion. 0.019×0.025 stainless steel wire in upper and lower with curve of spee in upper and reverse curve of spee in lower with class II elastics were given to close the remaining space distal to canines and for overjet reduction (Fig 5).

Discussion

Bishara advised surgical exposure of the impacted canine without orthodontic traction, only when the tooth has a correct axial inclination. Surgically exposed teeth rarely erupt into a created space without orthodontic traction, especially once root formation is complete.⁶ Minimal bone removal during surgery results in reduced bone loss after orthodontic treatment. The exposed tooth remained periodontally healthy with proper handling of the soft tissues during the surgical phase and proper postoperative oral hygiene practices. Accordingly, minimal osteoplasty was done in this case to facilitate exposure and eruption of the canine.

Apically displaced flap was chosen considering the position of impacted canine crown in relation to mucogingival junction. This will prevent marginal bone loss and gingival recession. A bond failure of button or bracket will require another surgery with other traction procedures, but here, there is no concern for breakage of traction wire or bracket. Nine months after surgical exposure, canines erupted without any complications with healthy attached gingiva surrounding the tooth.



Fig 1: Intraoral view of the patient



Fig 2: Radiographs demonstrating impacted canine



Fig 3a&b: Arch alignment & exposure of impacted canine by apically displaced flap



Fig 4: exposed tooth being aligned in the arch

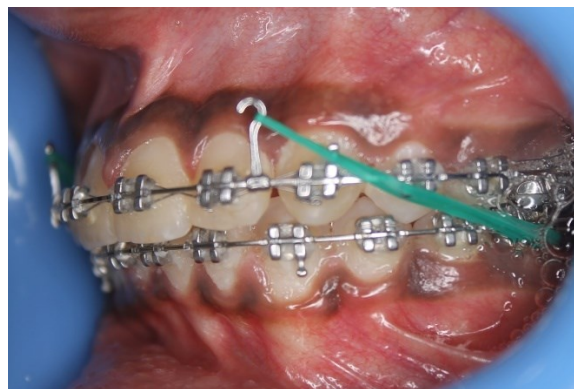
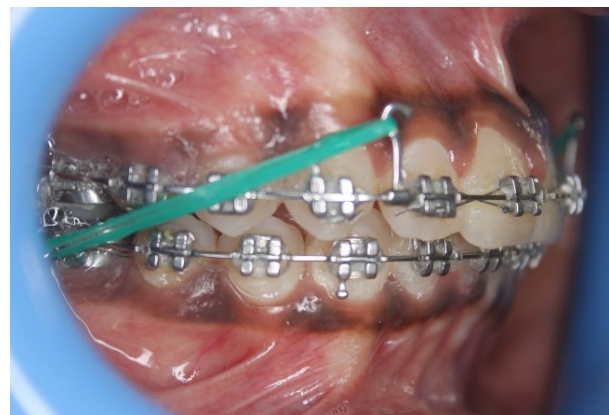
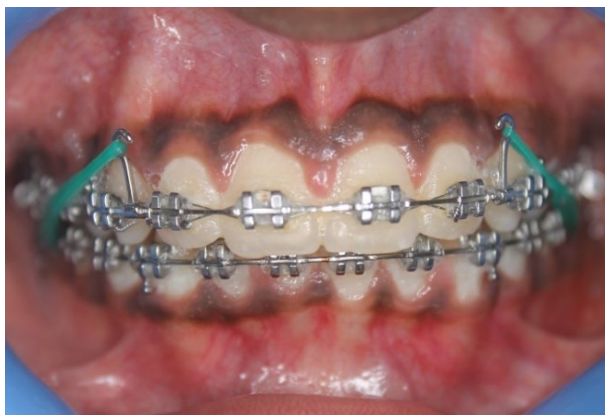


Fig 5: Occlusal correction

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ORAL ERYTHEMA MULTIFORME: A CASE REPORT

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Abstract

Erythema multiforme (EM) is a rare acute mucocutaneous condition that usually affects young adults with peak age of 20–40 years. The disease shows slight male predilection. The management of erythema multiforme is directed towards early detection and removal/prevention of contact with the etiologic agent. This article reports a case of 50 year old female diagnosed as oral EM that presented with oral and lip ulcerations without any skin lesions with history of fever and drug intake.

Keywords: Erythema multiforme, elderly female, management

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Introduction

Erythema multiforme (EM) is a rare acute mucocutaneous condition caused by a hypersensitivity reaction with the appearance of cytotoxic T lymphocytes in the epithelium that induce apoptosis in keratinocytes, which leads to satellite cell necrosis.¹It usually affects young adults with peak age of being 20–40 years but the onset may be as late as 50 years of age or more. The disease shows slight male predilection with male to female ratio of 3:2.7.^{2,3}

It is mainly classified into erythema multiforme minor (EMm) and erythema multiforme major (EMM) based on the severity and the number of mucosal sites involved. The third category of EM, oral EM is also described by many investigators when the lesions are confined to the oral mucosa and lips with no skin involvement.^{4,5}

There is no specific diagnostic method for these disorders. Diagnosis can be achieved only by excluding other similar diseases with the help of careful history and clinical examination. But the clinical appearance of oral ulceration is difficult to differentiate from other vesiculo-bullous disorders such as pemphigus or pemphigoid which makes the diagnosis difficult. The management of erythema multiforme is directed towards early detection and removal/prevention of contact with the etiologic agent. Dentists can play an important role in preventing the recurrence of these lesions by providing appropriate information to the patient.

This article reports a case of 50 year old female diagnosed as oral EM that presented with oral and lip ulcerations

without any skin lesions with history of fever and drug intake.

Case Report

A 50 year old female patient reported to the OPD with the complaint of ulcerations in the mouth and upper lip since 5 days. She gave history of fever 5days back for which she consulted a physician and started taking medication (unknown). She had developed blisters upon taking those medications which later progressed into irregular ulcerations in the mouth and lips. No history of bleeding or pus discharge from present from the ulcers. No similar ulcers elsewhere in the body were reported. Ulcers were associated with pain and burning sensation while having food. The medical and dental history was non-contributory.

On extra-oral examination, upper lip showed ulcerations, with cracking and blood encrustation (Fig.1,2). Intra-oral examination revealed extensive yellowish white irregular ulcerations with sloughing on right upper labial mucosa, largest ulcer being 1×2cm extending from vermillion border of upper lip to 2cm superior to upper buccal vestibule. On palpation, ulcers were tender, non-indurated with positive Nikolsky's sign. The sudden onset, history of fever and positive drug history, with above mentioned features lead to the diagnosis of oral erythema multiforme. In this case both drug and viral etiology was considered.

Patient was advised to discontinue all the medications and advised to take Acyclovir 400 mg QID for 1 week to remove precipitating herpes infection and a topical

anaesthetic agent is given to aid in food intake. Healing was noticed on the 3rd day and lesions completely regressed in 5 days (Fig.3, 4).

Discussion

Erythema multiforme is an acute, sometimes recurrent mucocutaneous condition of uncertain etiopathogenesis that can follow the administration of drugs or infections. Erythema multiforme is usually triggered by herpes simplex infections, but rarely by drug intake. In one study, it was reported that 71% of the EMm/EMM attacks were precipitated by a preceding HSV infection. Typically, EMm/EMM lesions develop 10 to 14 days following clinical manifestations of HSV infection. The most common drugs that trigger EM lesions are long acting sulfa drugs especially sulphonamides, cotrimoxazole, phenytoin, carbamazepine and nonsteroidal antiinflammatory drugs such as diclofenac, ibuprofen, and salicylates.^{6,7} In our case, there was a positive drug history as well as a history of fever which needs to consider both drug and infection as the etiologic agent.

EM has been classified mainly into minor and major forms. EM minor typically affects only one mucosa, and may be associated with symmetrical target skin lesions on the extremities. EM major typically involves two or more mucous membranes with more variable skin involvement. The third category of EM, oral EM is also described by many investigators when the lesions are confined to the oral mucosa and lips with no skin involvement as in our case.^{4,5,8}



Fig 1 & 2: The female patient and the associated lesions in the first visit



Fig 3&4: Follow up visit photographs

Since our patient reported with irregular yellowish white ulcerations in the

labial mucosa, along with crusted lip ulcerations, the diagnosis should be made based on the history of fever, history of drug intake, clinical appearance, and distribution of the lesion and exclusion of other ulcerative lesions. Biopsies are advised only in early vesicular lesions of erythema multiforme not in ulcerated ones since histopathologic appearances are nonspecific and nondiagnostic.⁹

Acute Herpetic gingivostomatitis, vesiculobullous lesions like pemphigus vulgaris, can be considered in the differential diagnosis as the lesion is confined to the oral cavity. In the case of herpes, the keratinized mucosa, most commonly gingiva will be affected which is not a feature in this case and the herpetic lesions are usually small and well circumscribed whereas in this case, the ulcer is large and irregular which points more towards erythema multiforme. Pemphigus

vulgaris can be excluded due the acute onset and history of drug intake.⁵

There is no reliable laboratory method of definitively diagnosing EM. Diagnosis is usually made by excluding other similar lesions by careful review of the clinical history and detailed clinical examination. Features more suggestive of EM are the acute onset (or recurrent nature), oral lesions typically located on the lip and anteriorly in the mouth, and pleomorphic skin lesions (typical and atypical target lesions). All these features except the skin lesions were present in our case.¹

Management of Erythema Multiforme is directed towards removal of the precipitating agent. Causal drugs should be stopped and relevant infections treated. Antiviral agents may be indicated in herpes associated EM, and a 5 day course of acyclovir 200 mg five times daily at the first sign of lesions, or 400 mg four times daily for 6 months, or continuous treatment using valacyclovir, 500 mg twice a day, is useful for prophylaxis.⁸

Conclusion

Oral EM is a rare variant of EM. HSV infections can be the most common triggering agent and less commonly the adverse drug reactions. It is important to identify and eliminate the etiologic agent as early as possible, so that complications as well as recurrence can be avoided.

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PSYCHOLOGICAL STRESS AND ORAL LICHEN PLANUS: REVIEW WITH A CASE REPORT

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Abstract

Oral Lichen Planus (OLP) is a common disorder that affects stratified squamous epithelium and can resemble keratotic diseases such as leukoplakia. Clinically, OLP can present six different patterns: papule, reticular, plaque, atrophic, erosive and bullous, each showing atrophic, erosive and bullous, each showing specific characteristics and appearing in either isolated or associated forms. Here, we discuss about a case of Erosive Lichen Planus and the role of stress in exacerbating the lesions in the patient.

Keywords: Oral Lichen Planus, stress, case report

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Introduction

Oral Lichen Planus (OLP) is a common disorder that affects stratified squamous epithelium and presents as small, raised, white, lacy lesions, papules, or plaques, and can resemble keratotic diseases such as leukoplakia.¹ Erasmus Wilson was the first to name and describe in 1869, “Lichen Planus” (LP) or Wilson’s disease. The prevalence of OLP is about 0.5 to 2% in the general population, but there is a variation of 0.1 to 4% in the literature, probably depending on the selected population. Generally, it is a disease of the middle-aged and the elderly and the female-to-male ratio is about 2: 1. The peak age in OLP is between 50 and 65 years. The disease is rare in childhood. It has been reported that one third

of the patients with OLP have no symptoms, whereas two-thirds of the patients have one or more symptoms.²

Clinically, OLP can present six different patterns: papule, reticular, plaque, atrophic, erosive and bullous, each showing specific characteristics and appearing in either isolated or associated forms. Among those, the reticular is the most prevalent type characterised by the presence of Wickham striae, which are typically symmetric, bilateral, asymptomatic, and predominantly found in the buccal mucosa. The erosive form, although less frequent, presents greater clinical significance as the lesions are usually symptomatic, ranging from a slight discomfort to episodes of intense pain.³

The aetiology of the OLP remains uncertain, but some evidence points out that the disease is an immunological process triggered by an antigen that alters the basal keratinocytes of the oral mucosa making them susceptible to cell immune response. The antigen that triggers this inflammatory response is still unknown, it might have an intrinsic or an extrinsic origin. Psychological disorders, such as depression, anxiety and stress have been investigated in the OLP aetiology, as patients with the disease report more frequent development or exacerbation of lesions during periods of greater emotional tension. However, studies that have evaluated those disorders in OLP patients have shown controversial results.⁴

Here, we discuss about a case of Erosive Lichen Planus and the role of stress in exacerbating the lesions in the patient.

Case Report

A 26 year old female patient from Kozhikode, Kerala presented with the chief complaint of severe burning sensation in the right and left side of the cheeks since the past 6 months. Burning sensation started 2 years ago and becomes severe intermittently. The burning sensation was aggravated when eating spicy foods. She had consulted general physicians and was on various medications but reported no relief through medication. She is a qualified nurse, but was managing the house and her children. She cited the lack of job as a cause for psychological stress and disturbed sleep. She gave a history of pruritus of skin, head which started about 1 year ago. Her physician had advised Tablet Avil 25mg once daily, but she increased the

dosage to almost 20 tablets/ day; to help her sleep better. She stopped this self-medication when she noted blackish discolouration on her skin. She gave a history of fixed orthodontic treatment 4 years ago; which was stopped midway due to her marriage and this was re-initiated about a year back.

General examination revealed alopecia (Fig. 1) in the skull along-with pigmented, pruritic eruptions on the flexor surface of the hands (adjacent to wrist) and legs (approximating the ankles) (Fig. 2& 3). Intraoral examination revealed diffuse, white striae like lesions dispersed in an area measuring approximately 3 x 1 cm on the lower labial mucosa extending medio-laterally from the right to the left commissures of the lip and superior-inferiorly 1 cm from the vermilion border of the lower lip to the depth of the lower labial vestibule.



Fig 1: Alopecia

Diffuse, white striae like lesions were dispersed in an area measuring approximately 5 x 4 cm on the left and right posterior buccal mucosa interspersed with erythematous area of approximately 1 cm diameter at the occlusal plane of 37 on the left side (Fig 4 & 5). On the right posterior buccal mucosa the erythematous area was of size

approximately 2 cm in diameter at the occlusal plane of 17 and 47. On palpation, rough consistency of surface which was non tender to palpation was noted. It was a non scrapable lesion with no ulcerations/bleeding/pus discharge.



Fig 2: Lesions on the flexor surface of the forearms



Fig 3: Lesions on the ankle

A provisional diagnosis of Erosive OLP was made. Differential diagnoses considered were Systemic Lupus Erythematosus and Oral Psoriasiform lesions. An incisional biopsy was performed and the histopathology study revealed a parakeratinized stratified squamous epithelium with areas of atrophy and a thick band of inflammatory cell infiltration with

lymphocytic predominance in the connective tissue. These features were suggestive of erosive OLP and the final diagnosis of Erosive Lichen Planus with systemic manifestations was made.

Taking into consideration her disturbed state of mind, an educative and counselling session was conducted for the patient and she was instructed to stop taking overdoses of drugs without prescription. She was given a prescription of Tab. Clonazepam 0.25mg to be taken at night under supervision; as an anxiolytic. She was advised to continue her counselling sessions. 0.1% Clotrimazole was given as antifungal as per protocol. After the receipt of the histopathology results, Tab Wysolone (Prednisolone) 10mg was prescribed in a tapering dose.

On follow-up, she described reduction in the burning sensation and examination revealed that the erythematous area had reduced bilaterally by 1 cm. On subsequent follow-ups, no exacerbation of the symptoms or lesion was noted.

Discussion

Lichen Planus is a chronic inflammatory disorder demonstrating a cell mediated immune condition of unknown aetiology, in which T lymphocytes accumulate beneath the epithelium of the oral mucosa and increase the rate of differentiation of stratified squamous epithelium, resulting in hyperkeratosis and erythema with or without ulceration.⁵

Psychosomatic factors and their association with dermatological disorders are well recognized, yet their importance in oral lichen planus (OLP) is still debated.⁶ The type of stress that is detrimental to health is termed “unmanaged stress.” Stress is universal, and we all handle it in different ways. What is stress to one person may be more of a positive challenge to someone else. Researchers have reported that one of the most detrimental types of stress producing factors are those that make the person feel they have no control with minor and major issues in their lives. Sometimes these factors are job-related pressures, family pressures, or health related issues that are already in play. Situations involving severe, unresolved grief and loss will also promote a long-term chronic type of stress. In the present case, the lack of a job and stresses of household work could be an initiator.⁷

Exacerbations of OLP have been linked to periods of psychological stress and anxiety. Soto Araya et al, 2004 noted that patients with OLP exhibit higher levels of anxiety, greater depression and increased vulnerability to psychic disorders. In a study by Ivanovski et al. in 2005, prolonged emotive stress in many OLP patients have been proposed to lead to psychosomatization which in turn may contribute to the initiation and clinical expression of oral lichen planus. However, the study was unable to determine whether the observed psychological alterations constitute a direct cause of OLP or a consequence of OLP.⁸ Hampf et al. found a

significant difference in the mental disturbance between OLP and non-OLP patients.⁹ More recently, Rojo-Moreno et al. found that OLP patients with erosive LP exhibit higher depression scores than patients with non-erosive lichen planus.¹⁰ S Chaudhary found in his study that a significantly higher stress, anxiety and depression level in OLP and positive control than the general population and no significant difference between OLP and positive control (in which psychosocial stressors is the sole etiology), suggested that psychological stressors play an important role in the causation of OLP.⁶ Koray et al emphasized that psychological intervention may be warranted given the fact that the level of anxiety and salivary cortisol of OLP patients are high, supporting the relationship of OLP with stress.¹¹ In contrast however, Allen et al. found no association between psychological factors and oral lichen planus.¹² Humphris and Macleod also reported no statistically significant association between OLP and anxiety.

Most patients with OLP are usually asymptomatic. However, atrophic-erosive forms are painful and also due to the fact that there is a risk of malignant transformation although low, long term follow-up is necessary. The atrophic-erosive form can cause symptoms ranging from burning sensation to severe pain. In the symptomatic cases, many drugs have been tried including corticosteroids, griseofulvin, topical

retinoids, cyclosporine, clobetasol, tacrolimus, sulodexide, pimecrolimus, oxpentifylline, photochemotherapy and photodynamic therapy with variable success. Corticosteroids remain the first line of treatment for OLP, be it in the topical form or the systemic form.⁸



Fig 4: Erythematous area with white striae on Right Buccal Mucosa



Fig 5: Erythematous area with white striae on Left Buccal Mucosa

In conclusion, OLP represents a heterogeneous group of patients afflicted with mucosal disease and it is imperative to classify and identify subgroups of patients that may result in treatments that are effective. Identifying and eliminating the multifactorial agents associated with the disease is essential. The improvement and control of oral hygiene should be a primary consideration in the management of OLP as this can enhance the healing of the lesions. As no therapy for OLP is curative, the goal for symptomatic patients is palliation.

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MURAL AMELOBLASTOMA: A CASE REPORT

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Abstract

Ameloblastoma is one of the commonest odontogenic tumour. There are various types of this tumour and confusion still exists among the clinicians about the correct classification. The ameloblastoma occur in three variants, each with specific implications for treatment and a unique prognosis: solid or multicystic, unicystic, and peripheral. This article presents a rare case of mural ameloblastoma, which was given a provisional diagnosis of lateral periodontal cyst.

Keywords: Mural ameloblastoma, odontogenic tumour, case report

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Introduction

Ameloblastoma is an intraosseous odontogenic neoplasm of great interest due to its ability to aggressively infiltrate the maxillofacial region.¹ This neoplasm accounts 10% of all tumours that originate from the gnathic bones and has a variable histopathological pattern. It is commonly found in young adults and does not often demonstrate sex predilection. Among the ameloblastoma, multicystic ameloblastoma is the most common.² It makes up 20% of all the cases. Unicystic ameloblastoma can be considered as the less frequent growth pattern seen in the intraosseous ameloblastoma.

Unicystic ameloblastoma was first described in 1977 by Robinson and Martinez.³ The unicystic variant by definition presents with a single cystic cavity which is

in many cases surround the crown of an unerupted mandibular third molar. The radiolucency is usually more sharply defined than that associated with solid ameloblastoma. This subtype is considered as a less aggressive tumour and frequency of occurrence is often underestimated. This article presents a rare case of mural ameloblastoma, which was given a provisional diagnosis of lateral periodontal cyst.

Case Report

A 46 year old male, came to the OPD, with a complaint of swelling in the lower front region of the jaw since 3 weeks. Patient had a dental history of traumatic occlusion and there was no associated nonvital tooth detected. Extra oral examination revealed an ovoid shaped swelling of size 3x2x1cm with a

cystic consistency in relation to 32, 33 tooth region and a slight adherence to the oral mucosa (Fig 1).

Radiographic examination revealed a solitary well defined homogenous radiolucent lesion seen in the anterior region of the mandible between the roots of 32 and 33 with superior border extending into the alveolus between 32 and 33. There is divergence of roots of 32 and 33 as a result of cystic expansion mediolaterally (Fig 2).



Fig 1: Intraoral examination showing ovoid shaped swelling in relation to 32 and 33 tooth region.

Based on the clinical presentation and radiographic examination, a provisional diagnosis of lateral periodontal cyst was considered. The lesion was surgically excised and the specimen was sent for histopathological examination.

The two bits of excised tissues were creamy white in colour, soft in consistency with irregular surface and corrugated margins. The larger bit measured 0.4x0.3x0.5

cm and the smaller bit measured 0.5 × 0.8 × 0.2 cm (Fig 3).

The histopathological examination showed uniform cystic lining of odontogenic epithelium which resembled ameloblastic epithelium overlying a moderately collagenous connective tissue wall. The connective tissue wall showed infiltration of odontogenic epithelial cells which are arranged in the form of follicles. The follicles consist of peripheral columnar cells with hyperchromatic nucleus which showed reversal of polarity and the central cells resembled stellate reticulum which showed cystic degeneration in few follicles (Fig 4 & 5). Inflammatory cell infiltrate, endothelial lined vascular spaces and extravasated RBCs were seen in the connective tissue walls. Deeper section showed bone and muscle tissue.

Based on the clinical, radiographic and histopathological interpretation, a final diagnosis of muralameloblastoma (subgroup 1.3) was made.

Discussion

Ameloblastoma, the mesmerizing tumour has been classified by WHO as an odontogenic tumour derived from an odontogenic epithelium with or without involving the odontogenic ectomesenchyme.⁴ The term ameloblastoma was suggested by Ivy & Churchill⁵ based on an analysis of the odontogenic epithelium involvement in the tumor origin. The potential source of ameloblastoma include embryonic odontogenic rests (Rests of Malassez and Rests of Serres), epithelial lining of odontogenic cysts (especially the dentigerous cyst) and basal cells from the



Fig 2: OPG showing solitary well defined homogenous radiolucent lesion seen in the anterior region of the mandible between the roots of 32 and 33



Fig 3: Gross picture showing two bits of tissue, creamy white in colour, soft in consistency with irregular surface and corrugated margins.

oral mucosa.⁶ Ameloblastoma occurs in a wide range of age groups with a mean age of 36 years and equally among the sexes. It is a slow growing asymptomatic tumor, arising in the mandible in over 80% of cases.

Etymologically, the name ‘ameloblastoma’ derived from the old French word “amel,” which means enamel,

and the Greek word “blastos,” meaning germ or bud. Over time, this tumor has been referred to by many different names including “cystosarcoma”, “adamantine epithelioma”, “adamantinoma” and finally “ameloblastoma”.

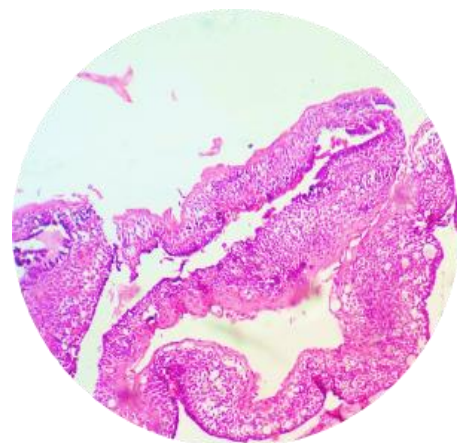


Fig 4: Cystic lining resembling odontogenic epithelium. [Hand E stain, Magnification 10X]

The tumor is usually asymptomatic and presents itself as a slowly enlarging facial swelling. It is a locally destructive tumor with a propensity for recurrence if not entirely excised.

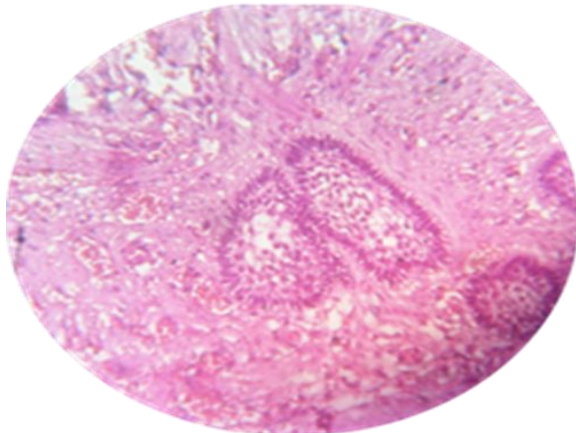


Fig 5:Odontogenic epithelial cells which are arranged in the form of follicles with peripheral columnar cells, hyper chromatic nucleus showing reversal of polarity and the central cells resembling stellate reticulum [Hand E stain, Magnification 40X]

Ameloblastomas occur in distinct clinical and radiographic situations, which need to be considered separately due to therapeutic and prognostic differences. These tumors are classified as solid or multi cystic (86% of cases), unicystic (13% of cases) or peripheral or extraosseous (approximately 1% of cases).⁷In addition, rare malignant subtypes with metastasis can occur (malignant ameloblastoma and ameloblastic carcinoma) (Antunes *et al*; Medeiros *et al*). This distinction is important because the treatment for a unicystic lesion can be more conservative due to its less aggressive behavior and usually smaller size than the solid or multicystic variant (Ordet *al*; 2002).⁸

The solid or multicystic and unicystic ameloblastoma may present to the dental

surgeon as an asymptomatic radiographic finding. The most typical feature of the solid or multicystic ameloblastoma is that of a multilocular (‘soap bubble’ or ‘honey-combed’) radiolucency.⁹ Resorption of the roots of teeth adjacent to the tumour is common. In many cases an unerupted tooth, most often a mandibular third molar is associated with the defect.¹⁰Solid ameloblastomas may also present as unilocular radiolucent defects that may mimic almost any type of cystic lesion. If looked closely, the margins of these radiolucent lesions often show scalloping.¹¹

A variant without particular clinical relevance is the desmoplastic ameloblastoma, characterized by a uniformly dense collagenous stroma with small nests and strands of compressed odontogenic epithelium.¹³

Other common entities described in the scientific literature are keratoameloblastoma and its papilliferous variant, ameloblastoma associated with calcifying odontogenic cysts or diffuse mineralized dental tissue deposits similar to odontoameloblastoma.¹⁴

Mucous cell differentiation, adenomatoid changes and HPV 18-positive verrucous lesion in a cystic cavity of ameloblastoma, are few of the focal microscopic differentiations with no particular clinical relevance described in the literature.¹⁶

Unicystic ameloblastoma is a variant of ameloblastoma, which has a large cystic

cavity with a luminal or mural proliferation of ameloblastic cells. This entity is considered to be less aggressive when compared to other variants of ameloblastoma and has low recurrence rate.¹² Few unicystic ameloblastoma have one or more mural nodules or local thickenings of the cyst wall. Nodules comprise invasive islands or strands typical of solid multicystic ameloblastoma.^{7,8}

Classification

Robinson and Martinez first made an attempt to classify ameloblastoma. They considered the following criteria to regard it as an ameloblastoma.

- Lining epithelial cells are clearly columnar with hyperchromatic nuclei.
- The overlying cells are loosely textured with absence of cohesiveness.
- Downgrowth of ameloblastic epithelium can be seen into the connective tissue portion of the cyst wall.
- The connective tissue portion of the cyst wall composed of outer columnar cells and stellate reticulum like cells in the center.
- Intraluminal nodules composed of anastomosing cords and islands of epithelium.

Ackerman et al first divided unicystic ameloblastoma into three histological groups

Luminal UA: Tumour confined to the luminal surface of the cyst

Intraluminal / follicular UA: Nodular proliferation into the lumen without proliferation into the connective tissue wall

Intramural UA: Invasive islands of ameloblastic epithelium in the connective tissue wall not involving the epithelium.

More recently the classification has been modified with subgroups by **Philipsen and Reichart** as:

Subgroup 1: Luminal UA

Subgroup 1.2: Luminal and Intraluminal

Subgroup 1.2.3: Luminal, Intraluminal, Intramural

Subgroup 1.3: Luminal and Intramural

These classifications indicate that unicystic ameloblastoma shows a varied histopathological presentation. The unicystic ameloblastoma diagnosed as subgroups 1, 1.2 can be treated conservatively by careful enucleation. Chemical cauterization with Carnoy's solution can also be advocated. Whereas subgroups 1.2.3 and 1.3 exhibiting intramural growth show radical resection. Following enucleation, vigorous curettage of bone should be avoided as it may implant foci of ameloblastoma more deeply into the bone.

Late recurrence following treatment is commonly seen, the average interval for recurrence being 7 years. Recurrence is also related to histologic subtypes of UA, with those invading the fibrous wall having a rate of 35.7%, but others only 6.7%.

Conclusion

Ameloblastoma may present diagnostic difficulties for the dental practitioner. This may be particularly so, if the presentations mimic other common clinical situations, as in this case mimicking

lateral periodontal cyst. When evaluating periapical lesions radiographically, care must be taken in looking for scalloped margins and root resorption as these should be viewed with suspicion. When performing surgical management of any lesion all tissue should be sent for histopathological analysis. This simple measure would avoid more unusual conditions being missed and enable appropriate treatment.

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AWARDS & ACHIEVEMENTS

KUHS MDS PART II EXAMINATION(AUGUST 2016) : RANK HOLDERS



Dr. B.R. Ashna

Reg No: 132480006

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Third Rank, Oral Pathology & Microbiology



Dr. Dhanya Preman

Won first place in paper presentation at the scientific programme of 44th Indian Prosthodontic Society Conference held at Navi Mumbai from 1st to 4th December 2016.



Miss Kavitha K of 2012 Batch won first place in Dental Artistry-2016 in connection with DCOPS “Dream with COPS” programme, astste level talent hunt programme to select the most promising UG student in Dentiarty, a venture of Cochin Periodontists Society held on 11th December 2016 at Ernakulam.



Miss Dona Elizabeth Sam was awarded “The Most Promising Student In Dentistry” – 2016 in connection with DCOPS “Dream with COPS” programme, astste level talent hunt programme to select the most promising UG student in Dentiarty, a venture of Cochin Periodontists Society held on 11th December 2016 at Ernakulam.