

Inflammatory Hyperplasia of the Oral Cavity

Oral Kavitenin İnflamatuar Hiperplazisi

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ABSTRACT

Oral inflammatory hyperplasias' are the most common oral abnormalities. It manifests as diverse signs and symptoms. It may occur in any part of the oral cavity. They occur mainly due to reactive stimulus hence these lesions are called reactive hyperplasia. Distinguishing these entities and removal of etiological factors are essential. This review illustrates the various hyperplasia of the oral mucosa.

Key Words: Inflammatory hyperplasia, Fibroma, Trauma, Reactive lesion

ÖZET

Oral inflammatuar hiperplaziler en sık görülen ağız için bozukluklarıdır. Çeşitli belirti ve bulgular gösterirler. Oral kavitenin herhangi bir bölgesinde görülebilir. Genellikle uyarılara tepki olarak geliştirdiklerinden, bu lezyonlar reaktif hiperplaziler olarak adlandırılırlar. Bu bozuklukları ayırt etmek ve etyolojik faktörleri ortadan kaldırmak büyük önem taşır. Bu derlemede oral mukozanın çeşitli hiperplazileri gözden geçirilmiştir.

Anahtar Kelimeler: İnflamatuar hiperplazi, fibroma, travma, reaktif lezyon

An oral inflammatory hyperplastic (IH) lesion is a common entity and may be defined as "an increase in the size of an organ or tissue due to an increase in the number of its constituent cells, as a local response of tissue to injury¹. These are the most common lesions of the oral mucosa occur due to local irritation or trauma. Usually such lesions are asymptomatic until they are ulcerated and secondarily infected. There are several forms of IH that are

classified based on site, clinical, radiological and histopathological features (Table 1.).²

This review illustrates the forms of IH, clinical features and management.

Table.1. Inflammatory Hyperplasias

Fibroma (FH)
Epulis fissuratum
Parulis
Inflammatory papillary hyperplasia (palatine papillomatosis)
Epulis granulomatosum
Pyogenic granuloma
Hormonal tumor
Peripheral giant cell granuloma
Peripheral ossifying fibroma (a misnomer). or peripheral fibroma with calcification
Pulp polyp (chronic hyperplastic pulpitis)

Forms

Irritation fibroma (traumatic fibroma)

It is due to reactive, local irritation or trauma. The lesion typically presents as an asymptomatic, well-defined, firm, sessile or pedunculated tumor with a smooth surface of normal epithelium. The size usually ranges from 0.5 cm to 1.5 cm in diameter. Fibroma often occurs on the buccal mucosa, gingiva, labial mucosa, and tongue. It is more common between 40 and 60 years of age in both sexes. Excision is the treatment of choice.^{3,4}

Epulis fissuratum (inflammatory fibrous hyperplasia)

Etiological factors include ill-fitting or over-extended denture borders. The lesion consists of two or more folds of soft tissue separated by a central groove into which fits the appliance border.^{3,4} It most often found in the buccal vestibule of the anterior maxilla, but any mucosal area touched by a denture border is vulnerable including the lingual aspect of the mandible. Women affected more commonly than men. Usually it is asymptomatic unless ulcerated. Persistent ulcerated areas in epulis fissuratum should be biopsied to rule out squamous carcinoma. Treatment includes surgical excision and

reduction of the denture borders.^{3,4}

Parulis

A parulis is a small, IH type of lesion that develops on the alveolar mucosa at the oral terminus of a draining sinus.² This lesion usually accompanies a draining chronic alveolar abscess in children. The maxilloalveolar and buccoalveolar mucosae are the most frequent sites, but the mandibuloalveolar mucosa and palate may also be involved. Slight digital pressure on the periphery of a parulis may force a drop of pus from the sinus opening and this is almost pathognomonic. The lesion usually regresses spontaneously after the chronic odontogenic infection has been eliminated. Rarely a draining osteomyelitis or infected malignant tumor may produce a similar appearance.

Papillary Hyperplasia (PH)

It occurs due to

- Wearing the denture throughout the day
- Mouth breather
- High palatal vault
- Candida albicans

PH and denture sore mouth are the different expressions of the same disease.^{4,5} Both are related to the wearing of dentures. In later stages, hyperplasia of palatal mucosa occurs and produces the red, pebbly appearances of papillary hyperplasia. In some cases of PH, the mucosa has a more mossy than mulberry appearance and the hyperplasia is not apparent until a gentle blast of air opens the crevices revealing the papillary nature of the lesion. For mild cases antifungal therapy, good oral and denture hygiene may help. The denture should fit well and not be worn at night. In cases of excessively redundant papillary hyperplasia, surgical reduction may provide a better denture base.^{4,5}

Epulis granulomatosum

It occurs because of sharp spicule of bone left in the walls of the socket.² It grows from a tooth socket after the tooth has been extracted or otherwise lost. Excision of the lesion and a careful curettage of the alveolus to ensure the elimination of irritating bony spicules. Because the growth might be malignant, the excised tissue should be examined microscopically.²

Pyogenic granuloma

Pyogenic granuloma is a benign hyper reactive inflammatory lesion that shows a fast growing focal reactive growth of fibrovascular or granulation tissue with extensive endothelial proliferation.⁶

Females are far more susceptible than males because of the hormonal changes that occur in women during puberty, pregnancy, and menopause. The pyogenic granuloma has been called a "pregnancy tumor" and does occur in 1% of pregnant women. When possible, wait until after delivery to remove the lesion in pregnant women because of a greater tendency for recurrence during pregnancy. In a number of cases, mastication on the lesion causes bleeding and pain and requires surgical intervention before parturition. Pyogenic granulomas occur at any age, but they most frequently affect young adults.⁷

Etiological factors includes

1. Chronic low grade infection⁸.
2. Traumatic⁸.
3. Drugs (cyclosporine)^{8,9}.
4. Hormonal⁸.
5. Poor oral hygiene⁸.
6. Aberrant tooth development¹⁰.
7. Injury to the primary tooth¹¹.
8. Association with guided tissue regeneration¹².
9. After allogenic bone marrow transplantation for multiple myeloma¹³.
10. B. hensalae, B. quintana, HHV-8 may play part in recurrent pyogenic granuloma¹⁴.

11. Low apoptosis influenced by the anti-apoptotic proteins like bcl-2 family proteins¹⁵.

12. C type of virus infection¹⁶.

The typical lesion involves the interproximal gingiva and increases in size to cover a portion of the adjacent teeth. The maxillary facial gingiva (especially in the anterior region) is involved more frequently. It is usually present as smooth or lobulated red-to-purple masses that may be either pedunculated or sessile. As lesions mature, the vascularity decreases and the clinical appearance is more collagenous and pink. Pyogenic granulomas vary in size from a few millimeters to several centimeters and are painless. These tumors are soft to palpation.¹⁷

Treatment of pyogenic granuloma consists of conservative surgical excision which is usually curative. Other treatments like Nd: YAG lasers and Pulsed dye lasers.^{18,19}

Peripheral giant cell granuloma (PGCG)

It is due to local irritating factors such as tooth extraction, poor dental restorations, food impaction, ill-fitting dentures, plaque, and calculus²⁰.

The PGCG occurs throughout life, with peak incidence during the mixed dentitional years and the 30-40-year-old age group. It is more common among females (60%)²¹. Clinical appearance of PGCG can present as polypoid or nodular lesion. Primarily bluish red with a smooth shiny or mamillated surface stalky or sessile base, small and well demarcated. Pain is rare and in most cases the lesion is induced by constant trauma. PGCG is a soft tissue lesion that very rarely affects the underlying bone, though the latter may suffer superficial erosion²⁰.

Most lesions of PGCG respond well to thorough surgical curettage that exposes all bony walls. The adjacent teeth should be carefully scaled to remove any source of irritation and to minimize the risk of recurrence. Recurrence rate is 5% to 10% and re-excision must be performed. When the periodontal membrane is involved, the associated teeth may need to be extracted to accomplish complete removal²⁰.

Peripheral ossifying fibroma (POF)

The etiopathogenesis of the POF is not known, trauma or local irritants such as subgingival plaque and calculus, dental appliances, poor quality dental restorations, masticatory forces, food lodgements and iatrogenic factors may influence the development of the lesion²².

POF has also been described by various synonyms such as peripheral cemento ossifying fibroma, peripheral odontogenic fibroma (PODF) with cementogenesis, peripheral fibroma with osteogenesis, peripheral fibroma with calcification, fibrous epulis, calcifying fibroblastic granuloma, etc. A POF is more common in females and in the anterior maxilla, but PODF has a predilection for males and the posterior mandible²³.

The lesions of POF are usually less than 1.5-2 cm in diameter, but have been known to grow to larger sizes. POF can cause resorption of the alveolar crest and separation of adjacent teeth with pathologic migration²⁴. Peripheral Ossifying Fibroma is found exclusively on the gingiva and does not arise in other oral mucosal location. It varies from pale pink to cherry red in color, can be either pedunculated or sessile and is typically located in the interdental papilla region. The lesion may cause a separation of the adjacent teeth, and occasionally minimal bone resorption can be seen beneath the lesion²⁵.

The lesion represents varying stages of a fibroma with ossification, however, ossification or calcification may not be evident in all cases, particularly in earlier stages of growth. Foci of radiopaque material, bone formation or dystrophic calcification may be seen, particularly in large lesions or lesions with overt mineralization²⁵.

Treatment requires proper surgical intervention that ensures deep excision of the lesion including periosteum and affected periodontal ligament. In children, reactive gingival lesions can exhibit an exuberant growth rate and reach significant size in a relatively short period of time²³.

Hormonal tumor

It is thought that the increased incidence during these periods may be

related to the higher levels of sex hormones or with pyogenic granuloma. It characteristically involves the interdental papillae and is usually deep red. A study involving gingival lesions during puberty concluded that oral hygiene is probably a more important causative factor than steroid hormone levels.

There is a significant increase of these lesions during pregnancy, particularly during the first and second trimester. The physiologic changes induced by increased levels of estrogen and the markedly increased levels of progesterone may be responsible.²

Pulp polyp

Mechanical irritation and bacterial invasion result in a level of chronic inflammation that produces hyperplastic granulation tissue extrudes from the chamber and often fills the associated dentinal defect²⁶.

Hyperplastic pulpitis is a type of irreversible chronic pulpitis that occurs where the pulp has been exposed by caries or trauma²⁶. This disorder is generally seen only in the teeth of children and young adults. The appearance of this kind of polypoid tissue is clinically characteristic: a fleshy, reddish pulpal mass fills most of the pulp chamber or carious cavity. Pulp polyps are also seen in chronic wide carious occlusal surfaces of a molar tooth where the antagonist tooth does not exist for a long time. Because of this, the hyperplastic pulp tissue extends beyond the cavity of a tooth, and it may appear as if the gum tissue is growing into the cavity²⁷. Radiographic examination generally shows a large open cavity with direct access to the pulp chamber. When pulp involvement is extensive or long-standing, periapical radiography may reveal an incipient chronic apical periodontitis²⁷.

Treatment of a pulp polyp in a permanent tooth includes either root canal therapy or extraction of the tooth. The more conservative pulpotomy treatment has been successful in selected cases when only the coronal pulp is affected. In immature teeth with incomplete root development, placement of an apical barrier and strengthening of the thin root with composite resin may be indicated prior to root canal treatment²⁸.

Conclusion

IH are most common entities of the oral mucosa. Usually the etiological factor persists within the oral cavity, so its role of the Oral Physicians to rule out the etiology and diagnose the form IH. Early diagnosis is very critical as further traumatization could result in added complications.

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