



RESEARCH ARTICLE

INFLAMMATORY FIBROMA OF ORAL CAVITY- review

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ABSTRACT

Intra- oral fibrous overgrowths of the soft tissues are relatively common and may be benign reactive or neoplastic lesions. Among these localised fibrous growths Inflammatory fibroma has been found to be commonly occurring in the oral cavity. Inflammatory fibroma is a reactive focal fibrous hyperplasia caused by trauma or local irritation. This can be due to the irritants such as calculus, plaque, overhanging margins, dental appliances and trauma due to sharp cusp impinging on the mucosa. The synonyms includes, irritation Fibroma, traumatic Fibroma, focal fibrous hyperplasia, fibrous nodule, fibrous polyp. An inflammatory fibroma may occur at any oral site but is seen most common on the buccal mucosa along the plane of occlusion. It may also occur on the gingiva or tongue. Inflammatory Fibroma has been common lesion encountered in the dental clinics, thus a vast knowledge about this lesion would be helpful for the dentists in treating the patients. This review extensively explains about the Inflammatory Fibroma for a better knowledge purpose.

INTRODUCTION

Most commonly found lesions in the oral cavity are localised focal fibrous growths which includes Focal fibrous hyperplasia, Pyogenic granuloma, Inflammatory fibroma, Peripheral ossifying fibroma and Peripheral giant cell granuloma. (Al-Rawi, 2009) (Kolte *et al.*, 2010) (Mathur, 2010). Among these localised fibrous growths Inflammatory fibroma has been found to be commonly occurring in the oral cavity. Inflammatory fibroma is a reactive focal fibrous hyperplasia caused by trauma or local irritation. (Kolte AP *et al.*, 2010) (Mathur, 2010) This can be due to the irritants such as calculus, plaque, overhanging margins, dental appliances and trauma due to sharp cusp impinging on the mucosa. (Mathur LK, 2010) (Nartey NO, 1994) It is a common, slow-growing, benign soft tissue tumour. They are usually sessile, pedunculated masses and are asymptomatic. The synonyms includes, irritation Fibroma, traumatic Fibroma, focal fibrous hyperplasia, fibrous nodule, fibrous polyp. The localised trauma may occur as single episode or repeated episodes which are less severe. Chronic infection or inflammation can also cause inflammatory fibroma. There is another type of fibroma apart from the inflammatory or traumatic fibroma, which is called the true fibroma. True fibroma occurs rarely in the oral and maxillofacial areas.

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(Goravalingappa *et al.*, 1995) True fibroma is a new growth which is continuously enlarging and arising not necessarily at the site of potential trauma (Scully *et al.*, 2010). The occurrence of inflammatory fibromas among the South Indian population was 39.1% in one retrospective analysis done in biopsies of gingival lesions. (Shamim T *et al.*, 2008) It occurs in 1.2% of adults, has 66% female predilection and is found in third to sixth decades of life. It usually presents as a single growth and is rarely larger than 1.5 centimetres. (Lian TS *et al.*, 2008) An inflammatory fibroma may occur at any oral site but is seen most common on the buccal mucosa along the plane of occlusion. It may also occur on the gingiva or tongue. (Kolte AP *et al.*, 2010) In this review, we have explained the various aspects of inflammatory fibroma for a better approach in diagnosis and for a better knowledge purpose.

Aetiology

Some general literatures have found the cause for a few of the lesions like inflammatory fibroma and mucocele, as occurring because of oral habits such as lip biting. Inflammatory fibroma of the oral cavity is usually due to chronic irritation such as, lip or cheek biting, irritation from a sharp cusp of a tooth, dentures or any dental prostheses. Oral practices like tongue piercings have found to be associated with inflammatory fibroma. (BarberiaLeacheE *et al.*, 2006) Natal tooth in a 4 and half year old infant was found to be rarely associated with inflammatory fibroma, which clearly states that the major cause for inflammatory fibroma in the oral cavity are the local irritants. (Singh S *et al.*, 2004) They may be exaggerated by duration of the lesion, intensity of irritation, and metabolic effects of serum

concentrations of hormones, (Mohammed Nazish Alam *et al*, 2010) especially female hormones.

Clinical Features

Inflammatory fibroma are commonly seen in adults than in children and old patients, occurs between second to sixth decade of life, has high female predilection. The high female predilection and a peak occurrence in the second decade and decreasing incidence after fourth decade of life suggested hormonal influences on development of the inflammatory fibroma. It may be present at any oral region, but it is found most often on the buccal mucosa in the plane of occlusion of the maxillary and mandibular teeth. Other common sites include the sides of the tongue, gums and inside the lower lip. Approximately 60% of Inflammatory Fibromas occur in the maxilla and they are found more often in the anterior region, with 55- 60% presenting in the incisor-cuspid region (Das *et al.*, 2009).

It is a round or ovoid, smooth-surfaced, asymptomatic, unencapsulated and firm pedunculate or sessile mass. It may have a leaf-like appearance if it was developed under a denture. The size may vary from 1 mm to 2 cm. Oral inflammatory fibromas develop for weeks or months to reach a maximum size usually about 2 cm in diameter, but can sometimes be larger. The surface may be ulcerated or hyperkeratotic, due to repeated irritation or trauma. The colour is same as the mucosal lining in the mouth, but is sometimes pale or, darker in colour. It usually occurs as a single growth. When it occurs as multiple lesions, the diagnosis associated should be considered including Tuberous sclerosis, Familial fibromatosis, Cowden syndrome and Fibrotic papillary hyperplasia of the palate. Oral fibromas do not develop into oral cancer.

Histopathology

Histopathology, showed epithelium which revealed atrophy of the rete ridges as a result of the underlying fibrous tissues and the epithelium was hyper-plastic stratified squamous epithelium which was partially hyperkeratotic and partially hyperorthokeratotic, but most often demonstrates atrophy of the rete ridges because if the underlying fibrous mass which is composed of dense hyalinised fibrous connective tissue arranged in circular, or radiating or haphazard fascicles with moderate amount of inflammatory cell infiltrate at few sites, consists mostly lymphocytes and plasma cells.

Differential Diagnosis

Soft tissue tumours and salivary gland tumours may have same appearance but are usually firm. Inflammatory fibroma also resembles certain lesions such as mucocele. The differential diagnosis of an inflammatory fibroma includes Neurofibromas, Peripheral giant cell granuloma, Benign and Malignant salivary gland tumours, Pyogenic granuloma, Giant cell fibroma, Peripheral ossifying granuloma, Metastatic cancer, Hemangioma, Hyperplastic gingival inflammation and Angiosarcoma. (Eversole *et al.*, 2002) (Enzinger *et al.*, 1995) Based on its duration, Pyogenic granuloma and Peripheral ossifying fibroma will vary from soft to firm and can be suggestive of inflammatory fibroma, although they are much lighter in colour. Inflammatory fibroma resembles Pyogenic granuloma in the fact that they both occur commonly in

pregnant women but vary in the fact that Pyogenic granuloma has a minimal vascular component and occurs exclusively on gingiva. Though Metastatic tumours are rarely seen in the oral region, the most commonly affected site is the attached gingiva followed by tongue. The first indication of an undiscovered malignancy at a distant location is the metastatic lesion in the oral region, which is found in nearly 30% of cases and the histopathological features must resemble the tumour of origin. (Hirshberg A *et al*, 1995)

Management

The treatment of inflammatory fibroma is conservative surgical excision of the lesion including the removal of the irritant causing it. The recurrence of these lesions are high and so a post-operative follow-up is required. Excised tissue should be sent for Microscopic Examination to determine if it is a inflammatory Fibroma or Fibroma or benign or Malignant Neoplasm. The extent of excision should depend on the severity of the lesion. Different wavelengths of high power lasers have been used to perform oral soft tissue surgery, such as CO₂ ($\lambda = 10.6 \mu\text{m}$), Er:YAG ($\lambda = 2.94 \mu\text{m}$), Er:YSGG ($\lambda = 2.78 \mu\text{m}$), Nd:YAG ($\lambda = 1.64 \mu\text{m}$), and diode lasers. Lasers with high intensity used in surgical procedures for the removal of inflammatory fibroma have shown various advantages compared to conventional surgical excision, such as the easier technique, reduction of operation time, decreased trauma induced in the tissue, decreased or no bleeding during the procedure, the surgical site is visualised better and greater comfort and better acceptance by patients.

Conclusion

Excessively repeated habits are harmful leading to muscular imbalance in the orofacial region in association with dental malposition, alteration in bone growth and orofacial abnormalities. Early interception of various habits in children and education will prevent such lesions in the oral cavity. To arise at a definitive diagnosis, these soft tissue growths and swellings, must be diagnosed clinically and histopathologically. Those undergoing orthodontic therapy should be monitored for areas of irritation in the oral mucosa. Thus in this review we come to a conclusion that the prevention, proper clinical and histological diagnosis, management and treatment of inflammatory fibroma are very important because of its occurrence and similar presentations of neoplastic growths which is rare in occurrence.

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