

Management of Inflammatory Fibrous Hyperplasia Using Surgical Excision and Electro Cautery in 10-Year-Old Child: A Case Report

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ABSTRACT

Background: This paper aims to describe an inflammatory fibrous hyperplasia lesion excised using a combination of conventional surgical excision and electrocautery in a 10-year-old female patient. The patient reported with the complain of swelling in upper left back tooth region of gums. On clinical examination, gingival overgrowth circumscribing 26 was observed. Prevalence of inflammatory fibrous hyperplasia is low and is caused due to local and systemic factors, affecting both children and adolescents. Appropriate diagnosis, factors inducing the lesion and management is the key to long term success.

Keywords: Gingival enlargement, inflammatory hyperplasia.

INTRODUCTION

Gingival enlargement is found frequently in clinical practice but correct diagnosis and cause of enlargement are key factors for an appropriate treatment. Inflammation of the gingival tissue induced by plaque (inflammatory hyperplasia) is the commonest form of enlargement commonly with the interdental papillae and may be localized or generalized. Such enlargement of gingiva can be exaggerated by hormonal effects, as found in puberty and pregnancy, and may also be complicated by certain systemic medications.¹

Historically, localized gingival enlargements have been termed epulides,² a term describing pedunculated or sessile swellings of the gingiva. However, epulides is a topographic term which gives no histologic description of a specific lesion and so the term “reactive lesion of the gingiva” has often been used instead.^{2,3}

Gingival enlargement is caused by tissue edema and infective cellular infiltration, caused by prolonged exposure to bacterial plaque, and is treated with conventional periodontal treatment, such as scaling and root planing.⁴

Inflammatory fibrous hyperplasia is rare in children and adolescents, ranging from 5.6% to 8% in the pediatric population. Surgical excision and reoccurrence are uncommon and hence biopsies are rare in pediatric population.

A histopathological examination of the hyperplastic tumors is imperative for confirmation of the diagnosis, owing to resemblance in the clinical presentation of different pathologies of this nature.

CASE REPORT

A female aged 10 years reported with complain of swelling in upper left back tooth region of gums in

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the end of 2020. Her past medical and dental history was non-contributory. The lesion was painless with no major change in dimensions of the lesion since its appearance. Radiographic exam did not show any evidence of a lesion in hard tissue.



Fig 1: Pre Operative.



Fig 2: Post surgical.



Fig 3: Coe Pak dressing.

The lesion was nodular, pedunculated, circumscribed polypoid lesion measuring about 2.5 cm × 2 cm, pinkish to reddish in colour, which bled

easily, and was painless with no purulent discharge. (Figure 1) This lesion involved the marginal and interdental gingiva on the buccal surface of the maxillary left molar extending to distal margin of primary first molar and palatally involving left maxillary first molar.



Fig 4: One week follow up.

Based upon the clinical presentation of the lesion, differential diagnosis of fibrous hyperplasia and fibroma was made.

Scaling and polishing were done on the first visit and oral hygiene instructions were given. Then, the patient was recalled for surgical excision of the lesion.

Patient was administered topical anesthesia with 20% benzocaine gel followed by local infiltration with 2% lidocaine and adrenaline at 1:100,000.

Using a 15C surgical blade with the assistance of mosquito forceps providing a slight traction, lesion was removed. To attain a bloodless field, continuous pressure dressing was applied during the procedure.

Due to limited mouth opening in children, making use of electrocautery residual tissue at the distal aspect of first molar was cauterized. (Figure 2) A coe pak dressing was placed on the site of surgery to promote healing. (Figure 3) Patient was instructed to avoid hot and hard foods, keep adequate oral hygiene and rinse her mouth with 0.2% chlorhexidine mouthwash twice daily for 1 week. The patient was kept under observation through recall checkups. (Figure 4)

The excised lesion was fixed in 10% buffered formalin and sent to the Department of Oral Pathology for histopathological examination.

Microscopic examination revealed parakeratinised stratified squamous epithelium and fibro-cellular connective tissue stroma. The lesional tissue showed bundles of collagen fibres with primitive proliferating fibroblasts. Chronic inflammatory infiltrate comprising mainly of lymphocytes with few plasma cells was seen along with single endothelial lined blood capillaries and myxoid tissue suggestive of inflammatory fibrous hyperplasia. (Figure 5)

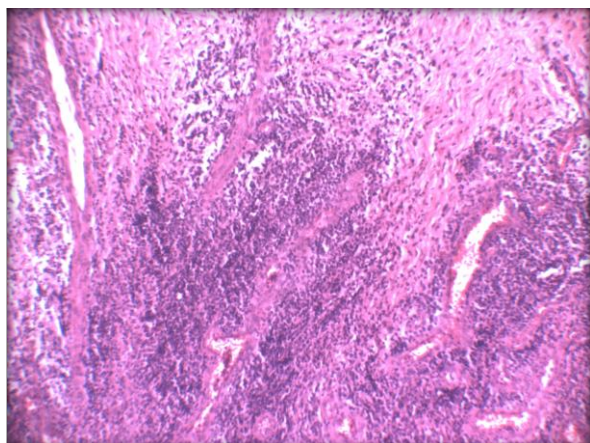


Fig 5: showing chronic inflammatory cells and proliferating fibroblasts

DISCUSSION

Inflammatory fibrous hyperplasia is rare in children and adolescents and the literature reports a greater incidence between the age of 9 to 14 years.⁵

Inflammatory fibrous hyperplasia or fibrous hyperplasia is a benign soft tissue response to a local irritant. Fibrous hyperplasia clinically presents as a well-demarcated exophytic mass. The colour ranges from normal to white or reddish depending upon whether or not the surface is ulcerated, keratotic or both or neither. It can be soft or firm in palpation.⁶

Histologically, inflammatory fibrous hyperplasia comprises of a mass of hyperplastic connective tissue with dilated blood vessels, usually with chronic inflammatory cells such as lymphocytes and plasma cells, but it can also be made up of solid connective tissue with minimum to no inflammatory cells, the latter called fibrous hyperplasia.⁷

The literature proposes excision as the treatment of choice in cases of inflammatory fibrous hyperplasia,

with the complete amputation of growth, along with a safety margin.^{8,9}

Laser and electrocautery have been introduced as surgical alternatives for inflammatory fibrous hyperplasia removal. Laser has played an increasingly important role in oral surgery because of the high absorption of water and haemoglobin obtained with it enhances cutting and coagulation capability.¹⁰

Electrocautery also provides improved hemostasis, but the mechanisms involved differ from those of laser. Despite the thermal damage it causes, it enhances hemostasis by means of blood vessel sealing before cutting. Electrocautery works on the principle of monopolar electrical current heating up a metal probe which is applied to the tissue promoting coagulation and cutting.^{11, 12} No heat reaches tissues located deep hence it is used to remove superficial tissue layers.^{13, 14} Electrocautery is faster and economic than laser in cutting and provides better haemostasis.¹⁵

CONCLUSION

Several fibrous hyperplastic lesions are similar both clinically and histologically, requiring biopsy for definitive diagnosis. Pediatric dentist should be thoroughly acquainted with different categories of fibrous hyperplasia they may come across while treating patients and should note such lesions for added assessment by Oral and Maxillofacial Pathologist.

Fibrous hyperplasia may continue to proliferate until completely removed. Fibrous hyperplasia can be treated with a combination of conservative surgical excision and electrocautery without subsequent recurrence. A case can be made for early recognition and treatment of lesions to minimize surgical intervention.

CONFLICTS OF INTEREST

The authors declare they have no potential conflict of interests regarding this article.

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