

Fibro-epithelial polyps in children: A report of two cases with a literature review

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Summary

A fibro-epithelial polyp is the most common epithelial benign tumor of the oral cavity. Such a polyp is of mesodermal origin and it is a pink, red, or white knob-like painless growth that is sessile or pedunculated. A fibro-epithelial polyp commonly occurs on buccal mucosa, the tongue, or the gingiva. A fibro-epithelial polyp is an inflammatory hyperplastic lesion in response to chronic irritation due to calculus, sharp tooth edges, irregular denture borders, or overhanging restorations. Such a polyp rarely occurs before the fourth decade of life and its prevalence is not sex-specific. The current paper presents two cases where an intraoral fibro-epithelial polyp was successfully managed in children. Conservative surgical excision was performed in both cases. A follow-up at 3 months revealed uneventful healing of the site without reoccurrence of the lesion.

Keywords: Fibro-epithelial polyp, traumatic fibroma, benign tumor

1. Introduction

The oral cavity is a dynamic region that is constantly exposed to various external and internal stimuli, resulting in a myriad of diseases, from developmental to reactive and neoplastic (1). Fibroma of the oral mucosa is the most common benign neoplasm of the oral cavity, and such a fibroma originates from fibrous connective tissues (2). A fibroma of the oral mucosa is most commonly seen in older adults but can occur at any age, with a prevalence of 1-2%. A fibroma is an inflammatory hyperplastic lesion of the connective tissue. This local response to tissue insult results in an increase in the size of an organ or tissue due to hyperplasia of the constituent cells. In the oral cavity, a fibroma usually occurs due to chronic irritation from sources such as lip/cheek biting, irregular denture borders, overhanging restorations, calculus, sharp tooth edges, or other oral prostheses (3). Fibrous hyperplasia is the healed end product of an inflammatory hyperplastic lesion (4). Daley et al. suggested the term

"focal fibrous hyperplasia," which implies a reactive tissue response, as preferable to the term "fibroma" (5). Fibroma of the oral mucosa is also known as irritation fibroma (IF), traumatic fibroma, a fibrous nodule, or a fibro-epithelial polyp (6). Usually, a fibroma of the oral mucosa clinically presents as painless swelling that is sessile or occasionally pedunculated; the affected site can be firm and resilient or soft with a spongy consistency (7). Cooke referred to any pedunculated lesion of the mucosal surface as a "polyp" (fibro-epithelial polyp) (8) and any pedunculated or sessile lesion in the gingiva as "epulides." Fibro-epithelial polyps most commonly occur in the buccal mucosa along the line of occlusion while epulides commonly occur in the maxillary anterior region (9).

The present report describes the rare case of a fibro-epithelial polyp on the buccal mucosa in one child and on the maxillary anterior gingiva in another.

2. Case Report

2.1. Case 1

A 12-year-old boy who had developed a growth in the left buccal region of the mouth four months earlier was seen by Pediatrics and Preventive Dentistry. The patient's history revealed a habit of chronic cheek biting during mastication since one year of age. The lesion

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Figure 1. Pre-operative intraoral photograph of the lesion in Patient 1.



Figure 2. Pre-operative intraoral photograph of the lesion in Patient 2.

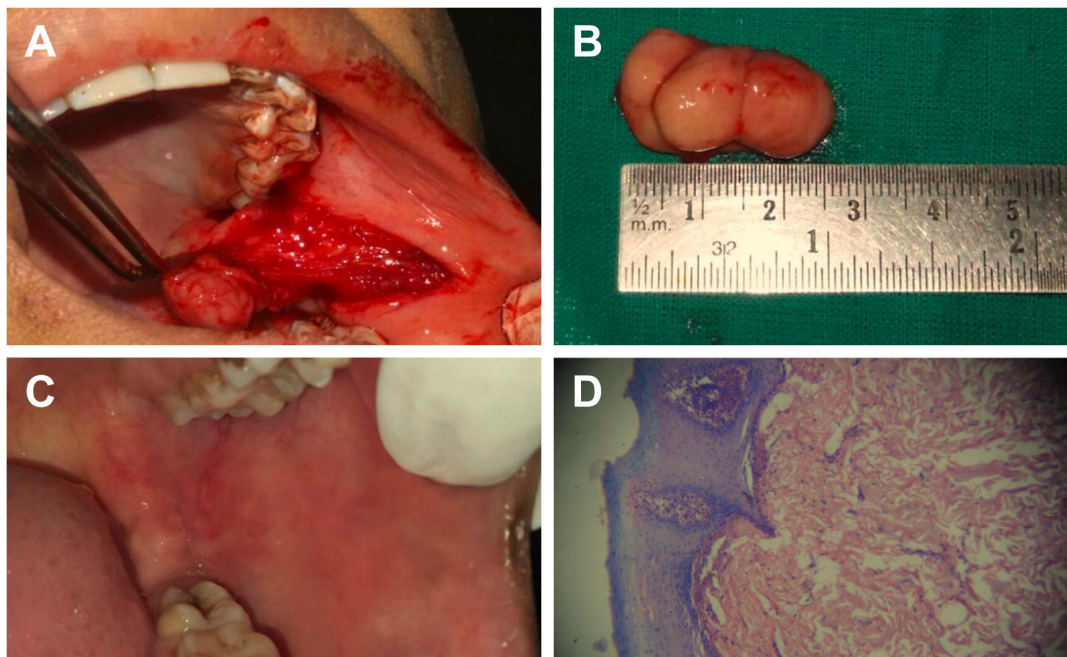


Figure 3. Clinical and histological photographs of the lesion from Patient 1. (A), Intraoperative photograph depicting fibrous attachment of the lesion to the tissue below. (B), Excised mass. (C), Post-operative intraoral photograph during follow-up. (D), Histopathological appearance of the lesion.

started as a small nodule and grew, but no change in size was noted over the last four months. Upon oral examination, smooth, well-defined swelling that was lobulated and sessile was noted. The color of the swelling resembled normal mucosa. The swelling was located on the left buccal mucosa along the line of occlusion and the swelling was up to 5 cm in diameter. On palpation, the growth had a firm consistency and it was attached to the surface below. No other signs and symptoms of any syndromes were detected. The patient was clinically diagnosed with a fibro-epithelial polyp on the left buccal mucosa (Figure 1).

2.2. Case 2

An 11-year-old girl who developed swelling in relation to an upper front tooth one month earlier was seen by Pediatrics and Preventive Dentistry. An oral examination revealed a solitary, oval-shaped, painless,

well-defined, and pedunculated growth between the left permanent maxillary central incisor and the left permanent maxillary lateral incisor. The growth had a firm consistency and was smooth and shiny in appearance. The growth was slightly red than normal mucosa and measured about 1.5×2 cm in diameter. The patient was clinically diagnosed with a fibro-epithelial polyp on the left maxillary gingiva. An intraoral periapical radiograph was taken to rule out any associated bone changes (Figure 2).

3. Treatment

In both cases, initial phase I treatment was planned. This included scaling & root planing and emphasizing oral hygiene. An excisional biopsy was performed under local anesthesia. The wound was sutured in Patient 1 (Figure 3) while a periodontal dressing was applied in Patient 2 (Figure 4). On gross examination, the excised

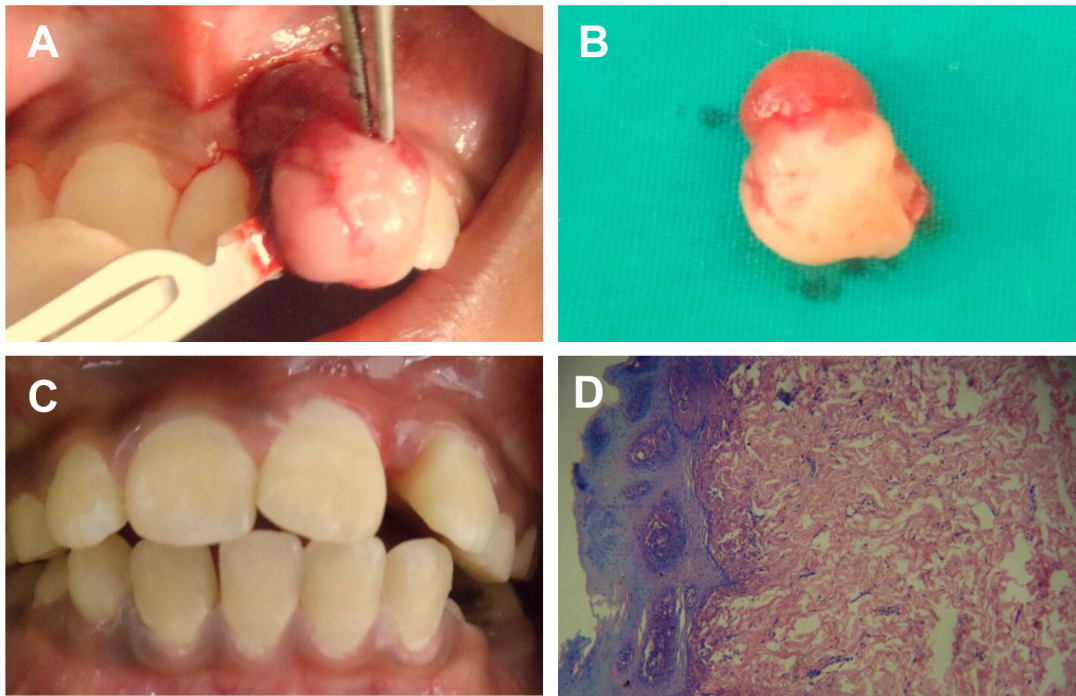


Figure 4. Clinical and histological photographs of the lesion from Patient 2. (A), Intraoperative photograph depicting fibrous attachment of the lesion to the tissue below. **(B),** Excised mass. **(C),** Post-operative intraoral photograph during follow-up **(D),** Histopathological appearance of the lesion.

mass appeared to be fibrous in nature. In both cases, histopathology revealed atrophic squamous epithelium that was parakeratinized and stratified and that had dense connective tissue stroma below. The connective tissue had dense bundles of collagen fibers, fibroblasts, and fibrocytes along with chronic inflammatory cells. Therefore, histopathological findings confirmed the diagnosis of a fibro-epithelial polyp in both cases.

4. Discussion

A fibro-epithelial polyp or fibrous hyperplasia is the most common benign soft tissue tumor seen in the oral cavity (10). A fibroma occurs as a result of a chronic repair process that includes granulation tissue and scar formation resulting in a submucosal fibrous mass (11). Axell reported that fibromas have a prevalence of 3.25% among the adult Swedish population (12). Fibromas rarely occur before the fourth decade of life and its prevalence is not sex-specific (12). In the current cases, both patients were younger than 20 years, a finding that contrasts with the affected age group described by the literature. The clinical features of a fibro-epithelial polyp are not exclusive and the lesion must be differentiated from a peripheral ossifying fibroma and a peripheral giant cell granuloma. A peripheral ossifying fibroma appears exclusively on the gingiva, and it may be firmer because of calcified material in the stroma (13), thus distinguishing it from a fibro-epithelial polyp. A pyogenic granuloma and a peripheral giant cell granuloma generally appear to be more vascular and may bleed when palpated (13). A fibro-epithelial polyp is

diagnosed based on the location of soft tissue swelling. If swelling is located on the tongue, the possibility of a neurofibroma, neurilemmoma, or granular cell tumor must be considered. Swelling on the lower lip or buccal mucosa may be a mucocele, lipoma, or salivary gland tumor. Another important distinguishing feature is that a traumatic fibroma exhibits two different patterns of collagen arrangement, a radiating pattern and a circular pattern, depending on the amount of irritation and the site of the lesion. An irritation fibroma with a radiating pattern is associated with sites that are immobile in nature (e.g. the hard palate) and with more severe trauma while an irritation fibroma with a circular pattern is associated with sites that are flexible in nature (e.g. the cheeks) and with less severe trauma, but a true fibroma exhibits neither of those patterns (14). A fibro-epithelial polyp does not pose a risk of malignancy (7). Recurrence rates are low (15) and recurrence is mostly caused by repetitive trauma at site of the lesion. In addition to surgery, other treatment modalities are electrocautery, an Nd:YAG laser, a flashlamp-pumped pulsed dye laser, cryosurgery, intralesional injection of ethanol or corticosteroids, and sodium tetradecyl sulfate sclerotherapy. However, the crucial step is to examine the tissue histopathologically in order to distinguish a fibro-epithelial polyp from a malignant tumor since those polyps mimic the clinical features of a true fibroma.

5. Conclusion

Diagnosis of an inflammatory hyperplastic lesion is quite difficult for clinicians since all lesions exhibit

overlapping clinical features. Their presence may hinder/obstruct the insertion of an oral prosthesis, cause difficulty with mastication or speech, or even cause bleeding and ulceration following a secondary infection. Therefore, the key to preventing the recurrence of that lesion is its surgical excision *in toto* along with elimination of the source of irritation that led to the lesion.

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