



Soft Tissue Growth in a Toddler - A Diagnostic Enigma

Ankita Sahni^{1*} and Aditya Patney²

¹Consultant Dental Radiologist, Mahajan Imaging and Labs 7B, PUSA Road, New Delhi, India

²Head of Department of Dentomaxillofacial Imaging, Mahajan Imaging and Labs, E-19 Defence Colony, New Delhi, India

***Corresponding Author:** Ankita Sahni, Consultant Dental Radiologist, Mahajan Imaging and Labs 7B, PUSA Road, New Delhi, India.

Received: October 17, 2025

Published: November 11, 2025

© All rights are reserved by
Ankita Sahni and Aditya Patney.

Abstract

An increase in the size of the gingival tissue can cause aesthetic as well as functional problems, and interfere with normal every-day functions like mastication and speech. These can be caused by a vast spectrum of local factors. Fibrous hyperplasia is rare in children and adolescents and very few cases have been reported in literature so far.

We report a case of a 5-year-old toddler where a complete diagnostic work flow along with advanced digital imaging and histopathological examination was used to ascertain the final diagnosis of fibrous hyperplasia. This case report also signifies the importance of inter-disciplinary approach in diagnosing and managing such lesions.

Keywords: Soft Tissue; Gingival Tissue

Introduction

Parents are frequently perturbed about any unpleasant growth that occurs in the oral cavity. In such cases pediatricians become the first point of contact and are in an un-paralleled position to ascertain mucosal lesions in children at a young age, as parents frequently seek their advice in order to ensure their child's optimal growth and development [1].

The oral cavity is constantly exposed to a variety of external and internal stimuli resulting in a wide spectrum of lesions ranging from developmental to reactive to inflammatory to neoplastic. These lesions vary from being generalized or limited in nature. Reactive lesions are non-neoplastic nodular swellings that develop in

response to chronic and recurring tissue injury that stimulates an exuberant or excessive tissue response [2].

So far meagre cases of oral mucosal lesion in children have been reported. This case report is of a 5-year-old male child where a complete diagnostic work flow along with histopathological examination was used to ascertain the final diagnosis of fibrous hyperplasia.

Case Report

A 5-year-old male child was referred by a pediatrician for a limited field of view CBCT scan of the maxillary anterior region with a chief complaint of swelling in upper front region of the gums since

1 year. The parents of the child gave no history of trauma. They noticed a swelling since one year, which gradually increased to attain the present size. Medical history and past dental history were non contributory. Intraoral examination revealed localized, sessile, non -tender, firm, pale pinkish color growth involving the upper right anterior maxilla corresponding to the palatal and interdental aspect of 51 and 52 regions. No obvious bleeding on palpation was observed [Figure 1].

CBCT scan with a field of view of 5x5cm was acquired using CS 9300 machine having a voxel size of 0.09mm with exposure settings as 75 kVp, 4 mA, and 12 s. CBCT scan revealed soft tissue thickening localized to the palatal aspect of 51 and 52 regions. No obvious imaging evidence of any calcification along with erosion of the adjoining maxillary palatal cortex was noted. No obvious peri-apical or periodontal pathology was observed with teeth 51 and 52 [Figure 2].



Figure 1

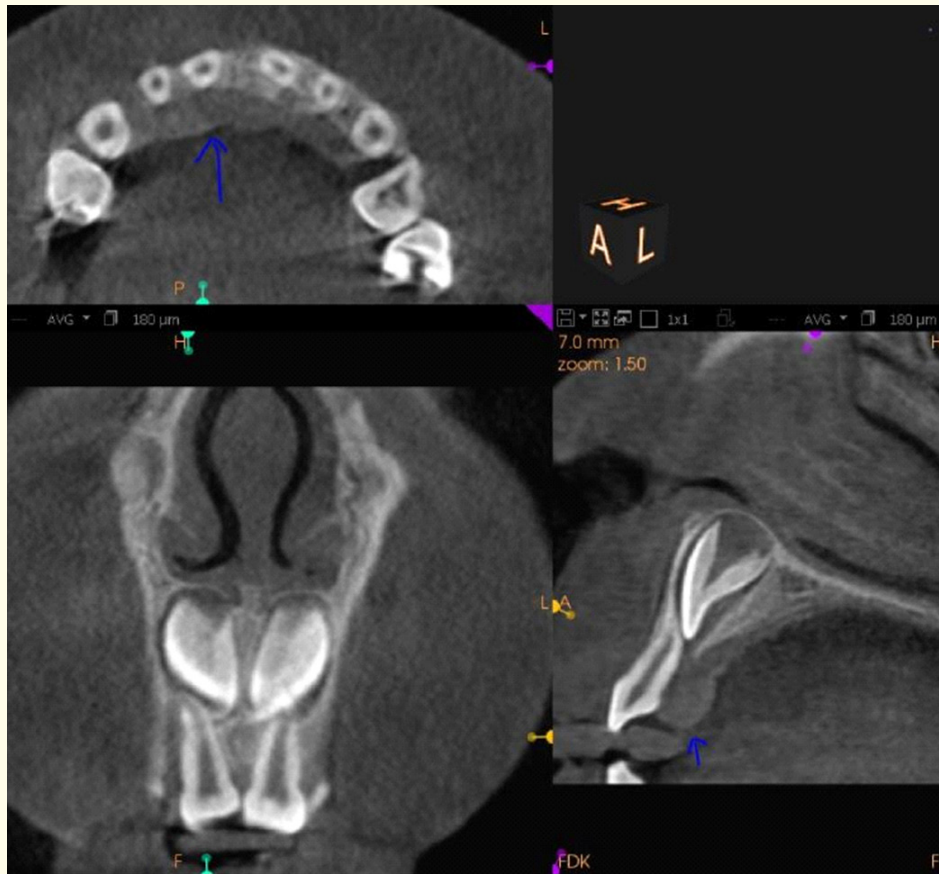


Figure 2

Keeping in mind the clinical presentation of the lesion and no obvious radiographic evidence of bone loss, our differential diagnosis included benign inflammatory conditions encompassing irritational fibrous hyperplasia, peripheral giant cell granuloma and peripheral odontogenic fibroma. Remote Possibility of oral malignancy was not completely ruled out.

Differential diagnosis [3]

The lesion was completely excised under local anesthesia and was subjected to histopathological analysis. Microscopy revealed haphazardly arranged thick collagen fibers interspersed with spindle shaped fibroblasts. Stroma showed diffuse inflammatory infiltrated. Flattened rete ridge were also noted.

Lesion	Pertaining to the case	Differentiating factor
Irritational fibrous hyperplasias	Second most common oral exophytic lesions Site - gingiva, tongue, buccal mucosa and palate Clinical presentation - sessile or pedunculated with a smooth contour, appear pale pink and are firm in consistency	No obvious irritating factor could be established
Peripheral giant cell granuloma	Peripheral giant cell granuloma is an unusual proliferative response of the tissues to trauma and/or injury, which may be a result of tooth extraction, denture irritation or chronic infection. Site- Gingival or alveolar process, mostly the mandibular premolar-molar region. Clinical presentation- sessile or pedunculated growths	Female predilection Age group of 30–70 years. Radiographic features usually show peripheral cuffing.
Peripheral odontogenic fibroma	Site-predilection for attached gingiva, occurring most commonly on the maxillary anterior and mandibular cuspid-premolar regions Clinical presentation- sessile or pedunculated, red or pink with a smooth surface and, in some cases, the overlying mucosa may be ulcerated. firm in consistency, non-tender and occasionally causes displacement of associated teeth.	

On the basis of this histopathological findings, a confirmatory diagnosis of fibrous hyperplasia was made. Healing was satisfactory with no recurrence so far.

Discussion

Any pathologic growth that protrudes above the usual contour of the oral surface is referred to as a soft tissue tumor-like lesion. These soft tissue tumor-like lesions in the oral cavity are caused by numerous factors. Reactive hyperplasia and neoplasia are the most common mechanisms at work. The majority of oral mucosa overgrowths are reactive rather than malignant [4].

Pediatric oral mucosa and soft tissues are constantly exposed to the influence of multiple predisposing low-intensity internal and external injuries, which may produce diverse lesions [5].

Pyogenic granuloma, peripheral giant cell granuloma, fibrous hyperplasia, and peripheral fibroma with calcification are the four types of reactive gingival lesions defined by Kfir, *et al.* [6].

Daley, *et al.* proposed that the word “focal fibrous hyperplasia,” which suggests a reactive tissue response, be used instead of “fibroma,” which implies a benign neoplastic proliferative fibrous connective tissue, which is wrong. It is the most prevalent oral mucosal mass in adults, accounting for roughly 1.2% of the population [7].

Inflammatory fibrous hyperplasia is rare in children and adolescents, ranging from 5.6% to 8% of specimens in the pediatric population. The literature reports a greater incidence in this population between the ages of 9 and 14 [8]. In the present case our patient was only 5 years old, making this case rare.

Fibrous hyperplasia is a benign soft tissue response to a local irritant. It can be due to calculus, a sharp tooth, a broken filling, excessive plaque and other irritating factors. However, in our case the irritant could not be identified may due to lack of proper history elicitation considering the patients young age and parents unawareness.

Inflammatory fibrous hyperplasia can manifest itself clinically as pedunculated or sessile growth on any oral mucosal surface [2]. A sessile growth on the palatal aspect of the maxillary anterior gingiva was seen in the present case report, which was removed under local anesthesia and sent for histological examination, which confirmed the diagnosis of fibrous hyperplasia.

Dental imaging plays a pivotal role in diagnosing and monitoring oral diseases as well as in treatment planning. Conventional radiography only provide two-dimensional (2D) images, cone beam computed tomography (CBCT) has enabled the acquisition of high-quality three-dimensional (3D) images (axial, sagittal, and coronal). Additionally, patients receive a lower radiation dose as compared to standard computed tomography. Keeping the benefits in mind, the use of CBCT in dentistry has significantly increased in recent years [9].

CBCT also has an advantage of detecting minute calcifications which may be present in soft tissue lesions along with evaluating the effect of the lesion on the underlying bone. It helps in establishing a provisional diagnosis so that necessary treatment plan can be undertaken [10]. In our case no calcification or underlying bony erosion was noted.

Conclusion

Soft tissue lesions are most commonly reported in adults and very few such cases have been reported in the pediatric population. Pedodontists and pediatricians must be aware of the possible onset of oral mucosal growths or lesions -even at very early ages so that adequate differential diagnosis and accurate treatment planning can be rendered. It is suggested that these cases must have a multidisciplinary approach, in addition to pediatric dentists, maxillofacial surgeons, periodontists and Oral medicine and radiology specialists should also be involved so that apt diagnosis and treatment planning can be provided [11].

Conflict of Interest

None.

The manuscript has been read and approved by all the authors, all the requirements for authorship as stated have been met, and that each author believes that the manuscript represents honest work.

Bibliography

1. American Academy of Pediatric Dentistry reference manual. "Oral health policies". *Pediatric Dentistry* 26.7 (2004): 14-61.
2. Niranjana B., et al. "A Rare Gingival Lesion in Children: Fibroepithelial Hyperplasia". *International Journal of Clinical Pediatric Dentistry* 15.4 (2022): 468-471.
3. Aditya Patney, et al. "Recurrent exophytic growth on maxillary posterior edentulous alveolar ridge - a diagnostic challenge". *Dental Update* 39.4 (2012): 286-290.
4. Delaney JE and Keels MA. "Pediatric oral pathology: soft tissue and periodontal conditions". *Pediatric Clinics of North America* 47.5 (2000): 1125-1147.
5. Kadeh H., et al. "Reactive hyperplastic lesions of the oral cavity". *Iranian Journal of Otorhinolaryngology* 27.79 (2015): 137-144.
6. Kfir Y., et al. "Reactive lesions of the gingiva. A clinicopathological study of 741 cases". *Journal of Periodontology* 51.11 (1980): 655-661.
7. Buchner A., et al. "Localized hyperplastic lesions of the gingival: a clinicopathological study of 302 lesions". *Journal of Periodontology* 48.2 (1977): 101-104.
8. Kadeh H., et al. "Reactive hyperplastic lesions of the oral cavity". *Iranian Journal of Otorhinolaryngology* 27.79 (2015): 137-144.
9. Jain A., et al. "A Review on Cone-Beam Computed Tomography and its Application in Dentistry". *Journal of Pharmacy and Bioallied Sciences* 16.1 (2024): S38-S40.

10. Choudhary A. "Peripheral Ossifying Fibroma-A case report with Cone Beam CT features". (2015).
11. Reddy V, *et al.* "Reactive hyperplastic lesions of the oral cavity: A ten year observational study on North Indian Population". *Journal of Clinical and Experimental Dentistry* 4.3 (2012): e136-140.