

CASE REPORT

Minimal Invasive Approach for Management of Lingual Swelling on Ventral Surface of Tongue

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ABSTRACT

Pediatric dentistry is a speciality of dentistry focusing mainly on oral health care of children. Early diagnosis and prompt treatment is key of a good treatment plan and effective results. Sometimes in infants, it is not possible to make a confirmatory diagnosis due to lack of cooperation, which is the biggest challenge of kids dentistry. In such cases, we need to take into consideration the psychological and physiologic aspect of child to find an alternative treatment plan, which is time saving and painless. Here, we present a unique case management of lingual swelling on the ventral surface of tongue in a 9-month-old girl child with a minimal invasive approach, thus avoiding a time-consuming and invasive surgical treatment plan.

Keywords: Lingual swelling, Minimum invasive approach, Tongue.

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INTRODUCTION

The oral mucosa presents lesions of the tongue in all age groups that may range from a small nodular swelling and ulcer formation in an infant of a few days old to an ulcer or a lesion in a 70-year old. The most common reason for the appearance of an ulcer may be trauma to the soft tissues in an infant due to the presence of natal teeth and presence of a sharp tooth in case of older individuals. These lesions have to be clinically evaluated for the final treatment, to avoid any recurrence.¹ In cases when proper evaluation is not possible especially in infants who can't open their mouth for long time, we as a pedodontist need to find an alternative approach for the treatment, which does not hinder child's physiological and psychological health.

Thus, the aim of this clinical case is to manage lingual swelling on the ventral surface of the tongue in a 9-month-old female child with a unique minimal invasive approach.

CASE DESCRIPTION

A 9-month-old female patient was referred to the Department of Pediatric Dentistry with a painless swelling of 3-month duration on the ventral surface of the tongue in the medial plane. There was no pain associated with the swelling as per history given by the parents. The parent could not recollect any history of trauma. On examination, the swelling was of the same color as that of the normal mucosa, firm in consistency, nonulcerated measuring about 13 × 7 mm (Fig. 1). Parent gave history of appearance of swelling only after eruption of lower central incisors and increased with time. The patient was noticed with a continuous habit of movement of the tongue over lower incisors during clinical examination. The child was very uncooperative, weak in health due to immature birth, was not opening mouth even for initial diagnosis procedure, and was not feeding properly due to lesion on the tongue. It was concluded on the basis of history given by the parents (as swelling appeared only after eruption of lower central incisors) and clinical examination that fabrication of some protective appliance can hinder repeated trauma of the tongue due to lower incisors and can save procedural time.

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A custom-made impression tray was fabricated on the cast of any other random patient of almost same age group to achieve a tray of the size of the patient (Fig. 2). Impression was made with



Fig. 1: Lingual swelling on the ventral surface of the tongue

an impression compound material (Fig. 3), and impression was poured to achieve cast of the female child patient (Fig. 4). The appliance was fabricated with the self-cure material (Fig. 5) and delivered to the patient (Fig. 6). Follow-up was done twice after 1-week duration twice.

On 1st week of the follow-up period, swelling size was reduced. Swelling completely subsided at the second follow-up period of 14 days (Fig. 7). The patient was recalled for follow-up visit at 6 months to check any recurrence of the lesion and no recurrence was noticed (Fig. 8).

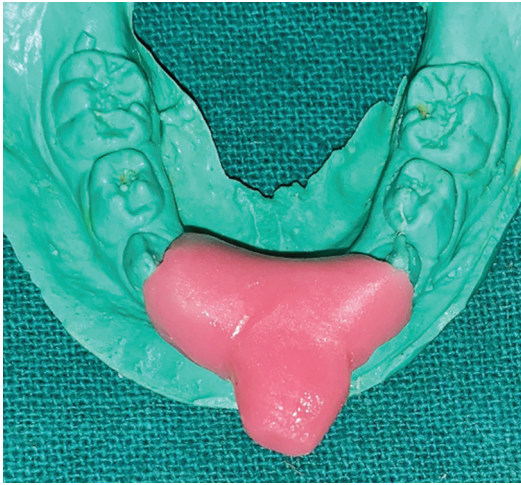


Fig. 2: Special tray made on cast of any other random patient

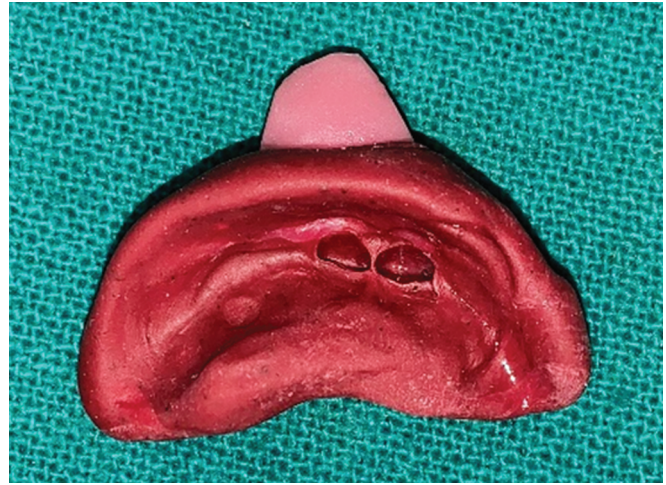


Fig. 3: Impression made with compound impression material



Fig. 4: Cast retrieved after pouring of impression



Fig. 5: Appliance fabricated



Fig. 6: Appliance covering lower incisors



Fig. 7: Healed lesion



Fig. 8: Follow-up 6 months

On the follow-up visit posttreatment, parents displayed satisfaction with the treatment as the child was feeding properly.

DISCUSSION

Lingual lesions in infants are reactive diseases of the mucosa seen in different forms like ulcers and swelling. They are the results of repeated trauma of the tongue due to mandibular incisors during forward and backward tongue movements.

In this case, lingual swelling was observed and the onset of lesion was directly associated with eruption of mandibular incisors and its size continuously increased with time with child's protrusive and retrusive movements of the tongue.

Other differential diagnosis could be Riga-Fede disease (RFD); traumatic lesions of tongue include mucocele, ranula, and breastfeeding keratosis.

Riga-Fede disease is a benign and uncommon mucosal disorder,² characterized by an ulceration of the tongue, often caused by repetitive traumatic injuries due to backward and forward movements of the tongue over the mandibular anterior incisors.³

The expression "traumatic ulcerative granuloma with stromal eosinophilia" (TUGSE) refers to a chronic but self-limiting reactive ulcer of the oral mucosa.^{4,5} Although common in infants (between 1 week and 1 year of age), RFD has been reported in older patients and in a patient with acquired immunodeficiency syndrome.^{6,7} Riga-Fede disease is most commonly associated with the eruption of the primary lower incisor in older infants^{8,9} or natal-neonatal teeth in newborns.^{8,10}

Mucocele commonly arises due to alterations in the minor salivary glands, occurring in approximately 2.7% of patients under the age of 1. It can be of two types: extravasation and retention mucoceles, the former affecting the lower lip most frequently. Extravasation type often affects the younger age group and results due to trauma. Clinically, it presents as bluish (depending on the proximity to the surface), translucent, and fluctuant swelling, which may cause mechanical obstruction during feeding. Diagnosis can be confirmed by fine needle aspiration biopsy (FNAB) and histopathological evaluation. Conventional treatment includes surgical excision.¹¹

Ranulas are a rarity in newborns, presenting as a swelling in the floor of the mouth and are commonly caused by extravasation of mucin than retention cyst. The incidence is estimated to be

approximately 0.74%. Clinical features show marked similarity to that of a mucocele. Diagnosis can be arrived with the aid of FNAB, MRI, and histopathological assessment.¹² Treatment includes observation for asymptomatic cases, aspiration, cryosurgery, marsupialization, or surgical excision with or without sublingual gland depending upon the variant (cervical or plunging ranula).¹³

Breastfeeding keratosis: Recently, Kiat-Amnuay and Bouquot¹⁴ reported a case of breastfeeding keratosis, nonresponsive to antifungal drugs, in a 2-month-old child. History elicited from parents revealed unusual habit of active lip sucking in-between the feeding sessions. Cytopathology revealed no mycotic structures. With diminution of habit, the lesion regressed by the 4th week with no recurrence.¹⁴

Taking into consideration patient factors, our first approach for the treatment was conservative only instead of time-consuming invasive surgical procedures. Hence, a minimal invasive approach for treatment that included protective dental appliance covering lower central incisors was followed. Effective results were obtained within 14 days and no recurrence of lesion after 6 months' follow-up. The patient started feeding properly and thus parents were also happy and satisfied with treatment.

CONCLUSION

In summary, the child affected with these lesions should be treated surgically but in such cases of infants with compromised health issues lesion management with a minimal invasive approach is a wise treatment approach, as painful and long time-consuming surgical procedure could negatively affect emotional, physical, and psychological development of the infant.

With regard to that, this case report brings forward conservative treatment option for small age group and with compromised health issues patients where it is not possible to go for large treatment modalities, to make a customizable approach possible for each patient taking into consideration factors involving the financial viability of the individual, duration of treatment, age of patient, health of patient, etc. However, prospective studies for other effective modalities have been suggested.

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