

# Conservative management of Riga-Fede disease

Pratibha Mishra,<sup>1</sup> Mamta Dali,<sup>2</sup> Bandana Koirala<sup>3</sup>

<sup>1</sup>Junior Resident, <sup>2</sup>Associate Professor, <sup>3</sup>Professor

<sup>1-3</sup>Department of Pedodontics and Preventive Dentistry, College of Dental Surgery, B.P. Koirala Institute of Health Sciences, Dharan, Koshi Province, Nepal.

## ABSTRACT

Sublingual traumatic ulceration is a rare, benign, ulcerative and granulomatous process that occurs as a result of repetitive trauma of the mucosa of ventral surface of the tongue by teeth. This may occur very early in life due to the presence of precociously erupted teeth or later during infancy at about 6-8 months during the time of eruption of mandibular central incisors. This could be a manifestation of developmental anomaly or an underlying neurologic disorder, including both the incidental and syndrome-associated natal teeth and inherited sensory neuropathies (e.g. familial dysautonomia). Treatment should begin conservatively and aim on eliminating the source of trauma. As there was no risk for aspiration of the tooth in this case, a conservative treatment was chosen by grinding the incisal edge of the tooth and topical application of choline salicylate ointment leading to a satisfactory healing in 10 days.

Keywords: *Natal teeth; neonatal teeth; Riga-Fede disease; ulcer; ventral surface of tongue.*

## INTRODUCTION

Riga-Fede disease (RFD) is a benign and ulcerative lesion of the tongue and frenulum as a result of repetitive trauma from the lower anterior teeth (natal, neonatal or erupting primary mandibular incisor teeth).<sup>1</sup> This lesion is seen on the ventral surface of tongue as the tongue is raked over the teeth. The presence of teeth combined with the instinctive infantile tongue thrusting reflex cause this ulceration.<sup>2</sup> RFD may interfere with proper suckling and increases risk for nutritional deficiencies and dehydration. This case report highlights a conservative treatment of RFD with uneventfully curative.

## CASE REPORT

A 12-day-old male neonate was brought to the Department of Pedodontics and Preventive Dentistry with the complaint of ulcerative lesion on the tongue associated with difficulty in breast feeding for the last one week. Parents reported the presence of lower front tooth at the time of birth. There was no any significant family history present. On examination, the natal tooth was at the region of 71 with grade I mobility. A circular ulcer of approximately 10 mm diameter was present on the ventral surface of the tongue occupying a greater area to the left of midline. The lesion was non-tender and covered with yellowish white slough.

A conservative treatment option, that is rounding off of the incisal edge and local application of choline salicylate ointment on the ulcer was opted as the tooth was judged to be a primary tooth with minimal risk for aspiration. The radical treatment such as extraction would have to be opted had the tooth been mobile enough to put the child at the risk for spontaneous aspiration. The lesion healed satisfactorily after 10 days and parents reported normal breast feeding thereafter.

## Correspondence



Dr. Pratibha Mishra

Junior Resident

Department of Pedodontics and Preventive Dentistry

B.P. Koirala Institute of Health Sciences, Dharan, Nepal.

E-mail: mishrananu0717@gmail.com

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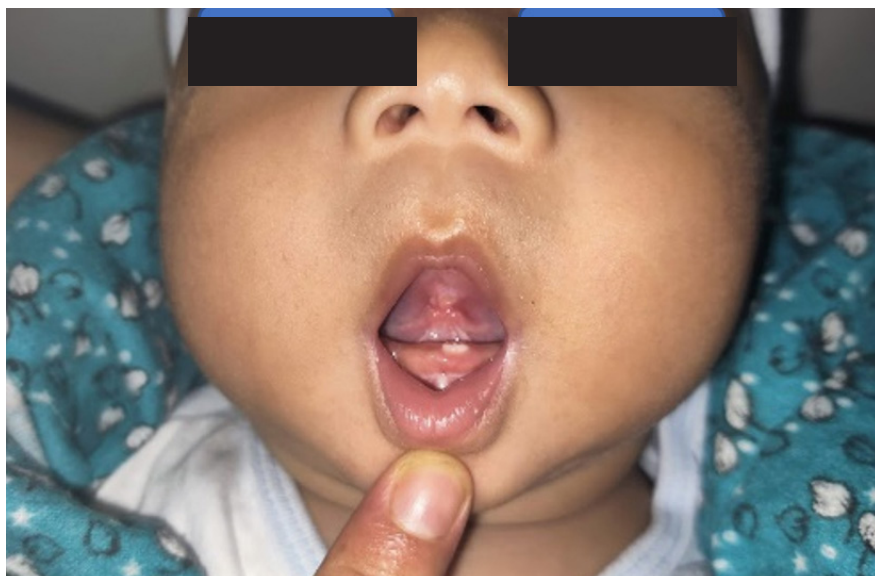
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**Figure 1.** Initial presentation of Riga-Fede disease.



**Figure 2.** 10 days after grinding of the incisal edge.



**Figure 3.** 40 days after grinding of incisal edge with healing seen on the tongue.

## DISCUSSION

Diagnosis for ulceration of tongue is made upon the history (medical and family), clinical presentation, potential source of trauma and age of the patient. In patients, who are unable to provide an adequate history, such as infants, the determination of a definitive clinical diagnosis is especially difficult. Ulceration of the ventral surface of the tongue in newborn babies or infants is most commonly related to the neonatal or natal teeth itself. In this case, the cause of ulceration was natal tooth. RFD begins as an ulcerated area with prominent raised edges on the ventral surface of the tongue which progresses to a fibrous mass with superficial necrosis due to repeated trauma. It has slight male preponderance.<sup>3</sup> RFD may signify underlying developmental or neurologic problem. Therefore, it is important to rule out the lesion as the initial oral manifestation of some serious underlying medical problems.

Biopsy was not performed because of the age and location of the lesion. The case was diagnosed as RFD based on the history and clinical findings. Confirmation of RFD considers the child's age to be less than two years. However, beyond this, oral traumatic granuloma takes the first place of diagnosis. This child, however, presented no such significant clinical findings and family history.

Treatment ranges from conservative options such as wait and watch, incisal grinding of the teeth (ameloplasty), placing resin cement on the incisal edge of teeth in the dome shape or placing a protective ring to the more radical options like excision of lesion and tooth extraction even.<sup>2</sup> Bhaskar and Lilly<sup>4</sup> reported a case treated by radiation, while Welbom<sup>5</sup> reported a case that received no treatment. All those cases were reported to have healed without recurrence. However, mesial migration of the neighboring teeth with loss of space were observed in cases where extraction was performed at an early age. RFD can be managed in most cases without extraction.<sup>2</sup> Elimination of the sharp edges of teeth is found to be helpful. Also, sharp incisal edge of the tooth can be covered with light cured composite resin to provide a smooth rounded surface for the tongue to pass over.<sup>3</sup> However, because of the inadequate enamel surface area for resin bonding, combined with the difficulties of isolation or dry operative field, retention of the resin is expected to be compromised.<sup>2</sup> Hence, again leading to the chance of aspiration. Parents should be informed about this, provided the particular treatment option is chosen.

If extraction is indicated, the child should be at least ten days or above. Otherwise, prophylactic administration of vitamin K (0.5 - 1.0 mg, IM) is advocated before and after extraction, since vitamin K is essential for the production of prothrombin in the liver as there could be risk of haemorrhage.<sup>6</sup> Observing the condition is the first option for managing the ulcer, as many of these ulcers resolve without treatment, especially if the infant has normal cognitive abilities. Some topical medications such as triamcinolone acetonide (Kenacort), emollient dental paste (Orabase), topical anesthetic gels or topical NSAIDs (choline salicylate) may be used for symptomatic relief and for reducing inflammation.<sup>1</sup> In the present case, the ulcer did not heal spontaneously without any intervention and the child was also not able to feed properly. Therefore, ameloplasty along with topical application of choline salicylate were opted. The wound in this case healed satisfactorily after the intervention and the child was able to breast feed properly after 10 days. A similar case of healed RFD following incisal grinding was reported by Ghimire N et al after one month.<sup>7</sup>

Tooth extraction was not sought as the treatment option because it was not mobile enough (Grade I mobile) to put the child at risk of aspiration. Zhu and King<sup>8</sup> were unable to find any reported cases of aspirated natal or neonatal teeth. However, cases of spontaneous tooth exfoliation have been reported.<sup>9</sup> On the basis of report by the parents of a 28-day-old baby of the sudden disappearance of a natal tooth, Bigeard et al<sup>10</sup> suspected the tooth to have been swallowed, a fact that indicates the possibility of aspiration. Hence, meticulous history taking, early oral examination and prolonged follow up should be done in case of Riga-Fede Disease and the parents briefed of plus instructed all the possible complications of RFD. The choice of treatment should depend upon case, ranging from conservative treatment option such as ameloplasty to a more radical one like extraction.

## CONCLUSION

The conservative option of incisal grinding for elimination of local irritation with the application of topical choline salicylate reduced the inflammation and relieved the symptoms of Riga-Fede Disease by the 10<sup>th</sup> day. The child was able to breast feed normally and the parents satisfied with the results reiterating the importance of timely intervention for a satisfactory result.

**Conflict of Interest: None**

INAPD

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