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Case Report

Neonatal teeth associated with Riga-Fede disease: A case report

Dhruv Desval[1*], Pooja Yadav[1], Amina Sultan[2], Akanksha Juneja[2]

[1]Faculty of Dentistry, Jamia Millia Islamia, New Delhi, India
[2]Dept. of Pediatric & Preventive Dentistry, Faculty of Dentistry, Jamia Millia Islamia, New Delhi, India

Abstract

Riga-Fede disease (RFD) is a rare traumatic ulcerative condition of the tongue in infants caused by repetitive trauma from natal or neonatal teeth during feeding, potentially leading to nutritional deficiencies and discomfort. This article discusses a case report of a 2-month-old infant with Riga Fede disease and feeding difficulties due to early eruption of primary mandibular central incisors. Conservative management with incisal edge smoothing and topical antiseptics led to successful healing. Conclusion: Early diagnosis and conservative treatment are essential to prevent feeding difficulties and complications. Regular follow-up is necessary, and extraction is considered only for highly mobile teeth or severe feeding interference.

Keywords: Natal teeth, Neonatal teeth, Riga-fede disease, Residual neonatal teeth, Traumatic lingual ulceration.

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1. Introduction

Riga-Fede disease (RFD) represents a distinctive form of traumatic granuloma in infants that occurs on the anterior ventral tip of the tongue secondary to trauma from the primary mandibular incisor teeth during feeding.[1] It typically manifests in infants aged between 1 week and 1 year,[2] RFD has been reported in older patients and in a patient with acquired immunodeficiency syndrome.[3] The etiology of RFD is not established, but many hypotheses have been proposed, including superficial positioning of the tooth germ, hormonal stimulation, hereditary transmission, malnourishment, lack of vitamins, and feverish conditions.[4] It is frequently associated with natal teeth (present at birth) or neonatal teeth (erupting within the first 30 days of life) and occurs in 6–10% of cases with natal teeth.[5] These prematurely erupted often cause repetitive trauma to the ventral surface of the tongue during feeding, leading to ulcerative lesions that can progress into fibrous masses with granulomatous features if untreated.[6]

The prevalence of natal teeth is approximately 1 in 2000 to 1 in 3000 live births, with a higher occurrence in females, though RFD shows a slight male predilection.[4] RFD is classified into two types: the precocious type, seen in infants under six months and caused by natal or neonatal teeth, and the late type, which is seen after 6–8 months of age, especially following the eruption of primary lower incisors. The late type is sometimes associated with neurological disorders, whereas the precocious type is not.[5]

This condition poses risks to an infant's nutrition as it can hinder their ability to suck and feed effectively, potentially leading to nutritional deficiencies.[6] Management of RFD focuses on eliminating the source of trauma. Conservative approaches include smoothing sharp incisal edges, applying composite resin domes, and modifying feeding methods.[5] Topical corticosteroids, cellulose film, and low-power lasers may also reduce inflammation and promote healing. Extraction is reserved for mobile teeth to prevent their aspiration or those severely interfering with feeding.[7] This article discusses a case of Riga Fede disease associated with a neonatal tooth in an 8 weeks old patient and its non-invasive management.

*Corresponding author: Dhruv Desval
Email: dhruvdesval2014@gmail.com

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2. Case Report

A two-month-old infant was brought to the clinical OPD with the chief complaint of an ulcer on the lingual surface of the tongue and irregular feeding for 1 month. The mother of the infant also reported abnormal calcified growths in the vicinity of the lesion after 2 weeks of birth. The baby was born healthy, full-term, and through a normal delivery. There was no family history of any congenital or developmental disorders.

On intraoral examination, we observed an ulcerative lesion on the ventral surface of the tongue. The lesion was circular, approximately 2 cm in diameter, and whitish-fibrinous in appearance (**Figure 1**A). Also, two tooth-like dental structures were evident in the mandibular anterior region, which resembled the mandibular central incisors (**Figure 1**B). One of the tooth-like structures was conical with sharp edges and associated with a mobile fragment. An IOPA radiograph revealed the presence of crowns without root formation, confirming the diagnosis of primary mandibular central incisors. (**Figure 2**).

Based on clinical and radiographic examination, a diagnosis of Riga Fede disease associated with early erupted deciduous central incisors was made. After a detailed discussion with the parents, we decided on a conservative treatment approach. The sharp edges of the teeth were smoothed using orthodontic abrasive strips for proximal stripping. Additionally, we removed the mobile fragment of a neonatal tooth. Also, we prescribed a topical antiseptic for the ulcerative lesion on the ventral surface of the tongue. We kept the patient on observation for two weeks. After two weeks, the patient came with a resolving lesion (**Figure 3),** and the mother reported that the baby had resumed proper feeding. The patient's parents were satisfied with the treatment. The patient was kept on further observation and asked to come for a review in the future.

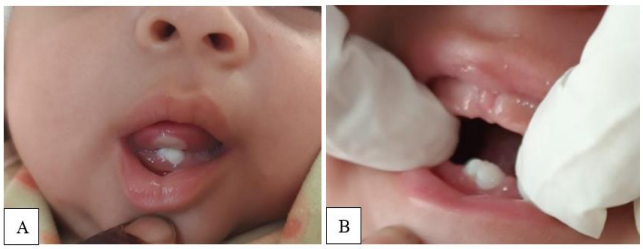

Figure 1: **A):** Intra oral pic showing lesion on the ventral surface of the tongue; **B):** Intraoral pic showing Neonatal teeth in mandibular anterior region

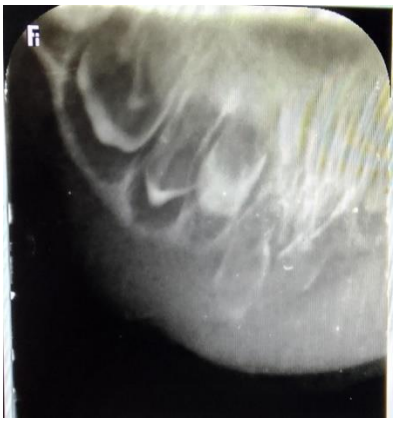

Figure 2: IOPA radiograph revealing the presence of crowns of 71 and 81 without root formation

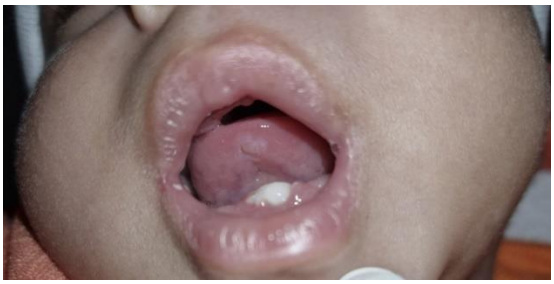

Figure 3: Post- op pic showing complete healing of the lesion after 2 weeks

3. Discussion

Riga-Fede disease (RFD) is a rare and serious traumatic oral condition seen in infants, primarily caused by chronic trauma from natal or neonatal teeth. In this case, a 2-month-old infant developed a 2 cm ulcer on the ventral tongue due to early eruption of the mandibular central incisors (71 and 81). Radiographic evaluation confirmed the presence of crowns without root formation, a characteristic feature of natal and neonatal teeth.

While the exact etiology of RFD remains uncertain, several contributing factors have been identified, including superficial tooth germ positioning, hormonal influences, hereditary predisposition, and systemic conditions such as malnourishment or febrile diseases.[4] RFD can be classified into two forms: precocious RFD, which occurs in infants under six months due to natal or neonatal teeth and is not associated with neurological conditions, and late-onset RFD, which is seen after six months of the eruption of primary teeth and may be linked to neurological disorders such as cerebral palsy.[5,8]

Clinically, RFD typically presents as an ulcerative lesion with a fibrinous base, most commonly on the tongue or lingual frenum.[6] Diagnosis is primarily clinical; however, it is essential to differentiate RFD from other conditions such as bacterial or fungal infections, primary syphilis, tuberculosis, lymphoma, lymphangioma agranulocytosis, traumatic neuroma, and congenital abnormalities.[5,9] A biopsy

is rarely necessary but may be considered in atypical or persistent cases.

The basic aim of management is to reduce trauma and facilitate healing. First-line treatment includes smoothing sharp incisal edges, applying composite resin domes, and using teething rings to prevent further irritation.[5,7] In this case, we chose conservative treatment, which involved rounding the incisal edges with abrasive strips and prescribing a topical antiseptic, which resulted in symptomatic relief and healing of the lesion. Extraction is recommended only in cases where the tooth is highly mobile, poses an aspiration risk, or significantly interferes with feeding.[7,10] If extraction is necessary, pre-extraction blood tests are crucial due to the immaturity of neonatal coagulation, and potential complications such as haemorrhage or methemoglobinemia from local anaesthesia must be carefully considered.[11]

We have scheduled the patient for a recall visit after one month to evaluate any tooth mobility or the persistence of Riga Fede disease, as it may require additional treatment. Even though this must be considered a last resort, we may eventually need to extract the neonatal tooth if conservative treatment therapy is unable to resolve the lesion in this situation in the future. A key consideration in cases requiring extraction is residual neonatal teeth, where a calcified structure resembling a tooth forms at the extraction site. Residual neonatal teeth occur in approximately 9.1% of cases and may result from retained odontogenic tissues. Some studies suggest curettage of the dental papilla to prevent this, but its necessity remains debated, given concerns about unnecessary invasive therapy in neonates.[11]

4. Conclusion

Early diagnosis and prompt intervention are essential to prevent feeding difficulties, malnutrition, and impaired growth. Regular follow-up is necessary to monitor for lesion recurrence or increased tooth mobility, which may eventually require extraction if conservative measures fail. Further research is needed to explore the long-term effectiveness of conservative treatments and the genetic or environmental factors influencing early tooth eruption.

5. Source of Funding

None.

6. Conflict of Interest

None.

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