

Riga Fede Disease: Fibrous Hyperplasia Associated with Natal Teeth in an Infant – A Case Report and Clinical Update

JINGARWAR MM., BAJWA NK., PATHAK A.

ABSTRACT

Early diagnosis is the key to successful management of this neonatal condition. One of the modern guiding principles of dentistry is to provide early and comprehensive infant care during the first year of life. Untoward complications can be avoided by simply

diagnosing the lesion at an early stage and treating them by eliminating the cause of trauma. The present case report describes early diagnosis and successful management of Riga Fede disease in a 17 days old infant by using conservative approach.

Keywords: Riga Fede, Natal Tooth, Traumatic Ulceration, Ventrum, Tongue

INTRODUCTION

Emergence of first tooth in the oral cavity of an infant is an important developmental milestone and is one of the most awaited events for the parents as well. Child development from conception through the first years of life is marked by many changes. Chronology of eruption may be subjected to small variations depending on heredity, endocrine and environmental features. At times, however, the chronology of tooth eruption suffers a more significant alteration in terms of onset, and the first teeth may be present at birth or arise during the first month of life [1].

Any untoward incident associated with this event brings about a plethora of reactions from parents and caretakers as well as a lot of interest; curiosity and concern from clinicians. The cause of the rare occurrence of natal and neonatal teeth, in the past, was associated with superstition and folklore, being related to good or bad omens [2]. Currently, eruption of neonatal teeth has been

related to several factors such as superficial position of the germ, infection or malnutrition, febrile states, eruption accelerated by febrile incidents or hormonal stimulation, hereditary transmission of a dominant autosomal gene, osteoblastic activity inside the tooth germ and hypovitaminosis. The natal and neonatal tooth has been reported to cause ulceration on the ventral surface of the tongue in neonates and infants, which may affect the child's feeding habits [3].

Riga-Fede disease is the rare condition of benign ulceration caused by repetitive trauma to the lingual tissues by the teeth in children younger than two years of age [3, 4]. A variety of other terms that have been applied to this lesion includes sublingual growth in infants, lingual traumatic ulceration, traumatic atrophic glossitis, traumatic granuloma of the tongue, traumatic ulcerative granuloma with stromal eosinophilia and sublingual fibrogranuloma [5]. The present case report attempts to throw some light on an apparently simple problem, which is sometimes difficult to solve.



[Table/Fig-1]: Showing lesion on ventral surface of tongue **[Table/Fig-2]:** Shows smoothen incisal edges of natal teeth
[Table/Fig-3]: Shows resolved lesion on 6 month follow up

CASE REPORT

A 17-day-old male infant was brought by his parents to Department of Pedodontics for management of pedunculated fibrous growth on ventral surface of tongue measuring about 8 × 12 mm that extended from anterior border of the tongue to lingual frenum. It was increasing in size. The mother complained of child exhibiting pain during suckling and inability to nurse. The single unusual finding at the time of birth was presence of mandibular anterior natal teeth. On clinical examination, the mass was firm in consistency, whitish in color and with smooth surface [Table/Fig-1]. On palpation, area elicited a pain response from the patient. Examination of the rest of intraoral mucosa revealed no other lesion in relation to the natal teeth. The patient was seen to have an exaggerated and continuous sucking reflex, with repeated thrusting of the tongue towards the exterior of the oral cavity. This lingual reflex seemed to be the one that initiated the ulcer by moving the ventral surface of the tongue over the sharp edges of the erupted lower incisors. Based on clinical findings, diagnosis of 'Riga-Fede' disease was made.

In this case, we chose the conservative treatment by grinding the teeth [Table/Fig-2] and placing composite resin over the offending teeth and applied orabase topically. At the one month follow-up, we confirmed that the lesion was resolving and on six month follow up, lesion was resolved completely [Table/Fig-3]. Parents of the treated child, reported that the infant was feeding normally felt that the systemic health of the child had improved.

DISCUSSION

Normally primary incisors erupt in oral cavity by 6 months of age but when chronology of tooth eruption gets altered they may be present at birth or erupt within few days after birth. As per definition teeth that are present at birth are called natal teeth and those which erupt within a month after birth are called as neonatal teeth. The incidence of natal and neonatal teeth has been estimated to be between 1:1000 and 1:30000 [6,7]. In our case, the teeth were present at the time of birth therefore they were diagnosed as natal teeth.

Morphologically, natal and neonatal teeth may be conical or may be of normal size, shape and opaque yellow brownish in color. The dimensions of the crown in these teeth are smaller than those for primary teeth under normal condition.

The terms natal and neonatal tooth proposed by Massler M and Savara BS (1950) [8] were limited only to the time of eruption and not to the anatomical, morphological and structural characteristics. Spouge and Feasdy [9] recognized the need to classify into:

- **Mature**- when they are fully developed in shape and comparable in morphology to the primary teeth.
- **Immature**- when their structure and development are incomplete.

The term mature may suggest that the tooth is well developed compared to the remainder of primary

dentition and that its prognosis is relatively good. In contrast, the term immature assumes the presence of an incomplete structure and implies poor prognosis for the tooth in question [10]. On the basis of literature data by Hebling (1997) [11] recently classified natal teeth into 4 categories:

1. Shell-shaped crown poorly fixed to the alveolus by gingival tissue and absence of a root;
2. Solid crown poorly fixed to the alveolus by gingival tissue and little or no root;
3. Eruption of the gingival margin of crown through gingival tissue.
4. Edema of gingival tissue with an unerupted but palpable tooth.

Major complication from neonatal teeth is an ulceration on the ventral surface of the tongue caused by the tooth's sharp incisal edge also known as Riga Fede disease, the lesion was first described by Antonio Riga, an Italian physician in 1881 and Francesco Fede did subsequent histological studies in 1890 [12]. To qualify as Riga-Fede disease it is necessary for the patient to be less than two years old; above this age span the term used to describe similar fibrous growth should be oral traumatic granuloma. Recently, small ulceration with membrane formation on the under-surface of the tongue in infants with natal/ neonatal teeth was further studied by Antonio Cardarelli. So it has also been known as Cardarelli's aphthae, Cardarelli's disease, Cardarelli's syndrome.

Riga-Fede disease is a reactive, traumatic mucosal disease characterized by persistent ulceration of the oral mucosa. Most frequently it involves the ventral surface of the tongue or the lingual frenum because the tongue is raked over the teeth. Typically the lesion begins as an ulcerated area on the ventral surface of the tongue with repeated trauma; it may progress to an enlarged, fibrous mass with appearance of an ulcerative granuloma [5].

Presentation appears to be bimodal, coinciding with natal teeth (present at birth) or neonatal teeth (erupting during the first 30 days of life), and eruption of the primary teeth. Classification into two discrete groups aids aetiological identification. 'Early' cases (before six months of age) are related to natal or neonatal teeth, which often present with hypoplastic enamel and underdeveloped roots, with resultant early mobility. 'Late' cases (six months of age and older) occur with primary dentition, are frequently habitual, and may be related to neurological or developmental disorders such as familial Dysautonomia (insensitivity to pain).

The differential diagnosis includes infective and neoplastic conditions. It may also occur in older infants after the eruption of primary lower incisors with repetitive tongue thrusting habit. It may interfere with proper suckling and feeding and put the neonate at risk for nutritional deficiencies [3]. Also due to the mobility, the natal/neonatal teeth can be swallowed or aspirated by the infant during nursing. In such instances, dental intervention may be required [2].

In case of mild to moderate irritation to the tongue, conservative treatment such as smoothing the incisal edge with an abrasive instrument is advocated.

Alternatively a small increment of composite may be bonded to the incisal edges. Extraction may be needed to alleviate feeding difficulties or complications like Riga-Fede disease. Extraction may also be indicated if child's age is ten days or above and child has appropriate amounts of Vitamin K in the blood. Otherwise prophylactic administration of vitamin K (0.5 - 1.0 mg, i.m.) 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.

In present case, we chose conservative management as advocated by Allwright. The neonatal tooth is maintained by smoothening of incisal edge with an abrasive instrument. In cases of mild-to-moderate irritation to the tongue, such treatment may suffice [2,13]. Maintenance of natal tooth should be the first treatment option, unless this would cause injury to the baby. These teeth become less mobile by one month of age and the prognosis is good if the tooth survives beyond four months of age. If the teeth does not interfere with breastfeeding and are otherwise asymptomatic, no surgical intervention or extraction is necessary.

Extraction of teeth leads to several complications and premature loss of primary teeth may cause loss of space and collapse of the developing arches with consequent malocclusion in permanent dentition. Extraction is indicated if the teeth are supernumerary or if the teeth are poorly implanted and excessively mobile, which is associated with the risk of aspiration. Consultation with a paediatric dentist is strongly recommended, especially if tooth extraction is a consideration.

CONCLUSION

Paediatricians are, usually, the first who find natal, neonatal teeth and early consultation with paediatric dentist can prevent complications such as Riga Fede disease. Although such conditions do not appear frequently, proper evaluation and diagnosis are necessary for the best treatment to be provided. Longitudinal and more divergent studies are necessary to investigate the possible local or systemic factors that could be related to eruption of neonatal teeth, their association with other

pathologies and the basis of differential diagnosis, in order to promote a better oral condition for cases similar to the present one.

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AUTHOR(S):

1. Dr. Jingarwar MM.
2. Dr. Bajwa NK.
3. Dr. Pathak A.

PARTICULARS OF CONTRIBUTORS:

1. Post Graduate Student, Department of Pedodontics & Preventive Dentistry, Government Dental College & Hospital, Patiala, Punjab, India.
2. MDS (Pedodontics and Preventive Dentistry) Government Dental College & Hospital, Patiala, Punjab, India.
3. Professor and Head of Department of Pedodontics and Preventive Dentistry,

Government Dental College & Hospital, Patiala, Punjab, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Mahesh Jingarwar,
Department of Pedodontics and Preventive Dentistry,
Government Dental College and Hospital, Patiala,
India.
Email: dr.maheshjingarwar@gmail.com

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