Riga-Fede Disease: A Case Report And Literature Review

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ABSTRACT:

Riga Fede disease is a reactive mucosal disease as a result of repetitive trauma of the tongue by the anterior primary teeth during forward and backward movement. Although the aspect of the lesion might be impressive, its nature is relatively benign. Natal and neonatal teeth have been reported to cause ulceration on the ventral surface of the tongue in neonates and infants. This appearance was described by Riga and Fede and hence being termed as Riga-Fede disease. It is important to diagnose the lesion early and treat it by eliminating the cause of trauma to avoid untoward complications. This literature aims the pediatrician to recognize this entity and to prevent unnecessary invasive procedures.

Key-words: Natal, neonatal teeth, oral ulcer, tong diseases, Riga's disease.

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INTRODUCTION:

One of the current guiding principles of dentistry is to provide early full infant care during the first year of life as a way of maintaining oral health. For this, it is necessary to know the dental needs occurring at this age in order to opt for more preventive conduct. Child development from conception through the first years of life is marked by many changes. Tooth eruption at about 6 months of age is a milestone both in terms of functional and psychological changes in the child's life and in emotional terms for the parents. Expectations about the eruption of the first teeth are great and greater when the teeth appear early in the oral cavity.[1] On this basis, when teeth are observed at birth or during the first 30 days of life, being denoted as natal and neonatal teeth, respectively, the interest, curiosity, and concern of clinicians are similar to that of parents. Because of its rare occurrence.[1]

Because of its rare occurrence, in the past this anomaly of eruption was associated with superstition and folklore, being related to good or bad omens.[2] This explains the many reports about this topic since 59 B.C.[1] The lesion was first described by Antonio Riga in 1881 and Francesco Fede done subsequent histological studies in 1890.[2] Subsequently this lesion was termed as Riga-Fede disease. The objective of the present article was to present a review of literature for natal and neonatal teeth and clinical management techniques for Riga Fede disease.

HISTORY:

Several terms have been used in the literature to designate teeth that erupt before the normal time, such as congenital teeth, fetal teeth, pre-coccious teeth, and dentitia praecox. According to the definition presented by Massler taking only the time of eruption as reference, natal teeth are those observable in the oral cavity at the birth and neonatal teeth are those that erupt during the first 30 days of life. This definition has been accepted and utilized by most authors. The

presence of teeth at birth was considered a bad omen by the family of Chinese children, to believe that when these natal teeth would start to bite one of the parents would die. In England the belief was that babies born with teeth would grow to be famous soldiers, whereas in France and Italy, the belief was that this condition would guarantee the conquest of the world.[4] Historical figures such as Zoroaster, Hannibal, Luis and others may also have been favored by the presence of the natal teeth.[1]

GENDRE:

With respect to gender, there was no difference in prevalence between males and females. However, a predilection for female was cited by some authors. Almeida CM, et al reported a 66% proportion for females against a 31% proportion for males.

ETIOLOGY:

The presence of natal and neonatal teeth is definitely a disturbance of biological chronology, whose etiology is still unknown. It has been related to several factors, such as superficial position of the germ, infection or malnutrition, genetic blueprint, nutritional deficiency, febrile states, environmental factor, certain syndromes, eruption accelerated by febrile incidents or hormonal stimulation, hereditary transmission of a dominant autosomal gene, osteoblastic activity inside the germ are related to the remodeling phenomenon, and hypovitaminosis.[1]

The literature reflects the association of natal and neonatal teeth with developmental abnormalities such as reactive fibrous hyperplasia, congenital hydrocephalus with bilateral mandibular hamartoma, pyogenic granuloma, peripheral ossifying fibroma, eruption cyst, gingival fibrous hamartoma, bifid tongue and deaf mutism, etc.[3]

CLINICAL CHARECTERSTICS:

Morphologically, natal and neonatal teeth may be conical or may be of normal size and shape and opaque yellow brownish in color. According to Bigeard et al (1966), the dimensions of the crown in these teeth are smaller than those obtained by Lautrou (1986) 4 for primary teeth under normal condition.[5]

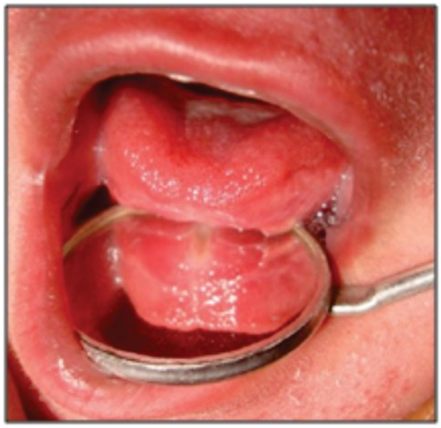
The terms natal and neonatal tooth proposed by Massler and Savara (1950) were limited only to the time of eruption and not to the anatomical, morphological and structural characteristics by Spouge and Feasdy recognized the need to classify into: Mature- when they are fully developed in shape and comparable in morphology of the primary teeth; Immature-when their structure and development is incomplete.

The term matures may suggest that the tooth is well developed compared to the remainder of primary dentition and that prognosis is relatively good. In contrast, the term immature assumes the presence of an incomplete structure and implies a poor prognosis for the tooth in question. On the basis of literature data by Hebling (1997)10 recently classified natal teeth into 4 categories:

1. Shell-shaped crown poorly fixed to the alveolus by gingival tissue and the 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.

Traumatic ulceration of the ventral surface of the tongue is most commonly associated with natal or neonatal teeth in newborns, It may also occur in older infants after the eruption of primary lower incisors with repetitive tongue thrusting habits. 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 the appearance of an ulcerative granuloma. It may interfere with proper suckling and feeding and put the neonate at risk for nutritional deficiencies. In such instances, dental intervention may be required.[1,4]

Photograph-1: 15 days old baby boy with Two teeth in the Mandibuar anterior region



Photograph-2: Riga-Fede Disease-Ulceration on the ventral surface of the tongue caused by neonatal teeth.

Table.1. Prevalence of Natal and Neonatal teeth Reported in literature.

Author	Prevalence
Magitot,1876	1:6000
Putch,1876	1:30000
Ballantyme,1897	1:6000
Massler & Savara,1950	1:2000
Allwright,1958	1:3408
Mayhall,1967	1:1125
Kates,1984	1:3667
Leing,1986	1:3392
Rusmah,1991	1:2325
To,1991	1:1118

***No Prevalence is currently available after 1996.**

CASE REPORT:

An eighteen days old male neonate was referred to the Department of Dentistry of S.P. Medical College, Bikaner, Rajasthan from the Department of Pediatrics with the chief complaint of teeth present in the lower jaw since birth. Family history was non-contributory. Examination of the oral cavity revealed natal teeth in the mandibular anterior region. The teeth exhibited an opaque whitish coloration. The crown was partially erupted and the appearance of the gingiva was mildly inflamed (**Photograph-1**). There was difficulty with breast feeding with the fear of aspiration. The height of the teeth was approx. 4-5 mm associated with edema of the gingival tissue and ulceration on ventral surface of tongue measuring of approx 7mm X 9mm (**Photograph-2**). Examination of the rest of intraoral mucosa revealed no other lesions. Examination revealed a neonatal tooth, probably, a primary incisor, with well-formed based on clinical findings, diagnosis of "Riga-Fede disease" was made. In our case, we planned for surgical extraction procedure under topical anesthesia. Hence the patient was recalled after 10 days and extraction was done with all safety parameters and postoperative instructions were given.

DISCUSSION:

Riga-Fede disease is a reactive, traumatic mucosal disease characterized by persistent ulceration of the oral mucosa.[2] Most frequently it involves the ventral surface of the tongue or the lingual fraenum because the tongue is raked over the teeth.[6] 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. A classification into two discrete groups aids etiological 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.[2,3]

In case of mild to moderate irritation of 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 the 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, 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.[1,2,7,8]

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