

## Riga-Fede Disease: Report of a Case with Literature Review

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### ABSTRACT

**Background:** The term Riga-Fede disease has been used historically to describe traumatic ulceration that occurs on the ventral surface of tongue in neonates and infants. It is most often associated with natal and neonatal teeth in newborns. A case of Riga-Fede disease is presented here.

**Keywords:** Incisor, Natal teeth, Ulcer.

### 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 6th month of age is a milestone both in terms of functional & psychological changes in the child's life & in emotional terms for the parents. The expectations about the eruption of the first teeth are great & greater when the teeth appear early in the oral cavity. On this basis, when teeth are observed at birth or during the first 30 days of life, being denoted natal and neonatal teeth respectively, the interest, curiosity and concern of clinicians are similar to that of parents.



Because of its rare occurrence, in the past this anomaly of eruption was associated with superstition & folklore, being related to good or bad omens. This explains

the many reports about this topic since 59 B.C., as observed in cuneiform inscriptions detected in the 19<sup>th</sup> century. Today, these teeth also stimulate the interest of both parents & health professionals because of their clinical characteristics, among them their being swallowed or aspirated by the infant during nursing. In view of the above considerations, the objective of the present article was to present a review of the literature for natal and neonatal teeth along with clinical management techniques for Riga Fide disease.

### LITERATURE REVIEW

#### History

Several terms have been used in the literature to designate teeth that erupt before the normal time such as congenital teeth, fetal teeth, predecidual teeth and dentitia praecox. According to the definition presented by Massler<sup>1</sup> taking only the time of eruption as reference, natal teeth are those observable in the oral cavity at the birth & 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

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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, where as in France and Italy, the belief was that this condition would guarantee the conquest of the world. Historical figures such as Zoroaster, Hannibal, Luis and others may also have been favoured by the presence of the natal teeth<sup>2</sup>.

### PREVALENCE

Adopted from Almeida & Gomide, 1996<sup>3</sup> (Table 1).

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

Authors	Prevalence	No. of children in sample
Magitot, 1876	1:6000	17,578
Putch, 1876	1:30000	60,000
Ballantyme, 1897	1:6000	17,578
Massler And Savara, 1950	1:2000	6,000
Allwright, 1958	1:3408	6,817
Mayhall, 1967	1:1125	90
Kates, 1984	1:3667	7,155
Leing, 1986	1:3392	50,892
Rusmah, 1991	1:2325	9,600
To, 1991	1:1118	53,678
Almeida & Gomide, 1996	1:21.6	1,019

### Gender

With respect to gender, there was no difference in prevalence between males & females. However, a predilection for females was cited by some authors. Kates et al<sup>4</sup> reported a 66% proportion for females against a 31% proportion for males.

### Etiology

The presence of natal & 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, febrile states,

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<sup>4</sup>.

### Clinical characteristics

Morphologically, natal and neonatal teeth may be conical or may be of normal size and shape and opaque yellow brownish in colour. According to Bigeard et al, the dimensions of the crown in these teeth are smaller than those obtained by Lautrou (1986)<sup>5</sup> for primary teeth under normal conditions.

The terms natal and neonatal tooth proposed by Massler and Savara<sup>1</sup> were limited only to the time of eruption and not to the anatomical, morphological and structural characteristics. Spouge and Feasdy<sup>6</sup> 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 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. On the basis of literature data Hebling<sup>7</sup> 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.

Traumatic ulceration on the ventral surface of the tongue is most commonly associated with natal or neonatal teeth in newborns<sup>8, 9</sup>. 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 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.

**CASE REPORT**

A twenty eight day old female was referred for evaluation of an ulcerated area on the ventral surface of the tongue (Figure 1). The mother complained of child exhibiting pain during suckling and would not nurse.

Oral examination revealed two crowns in the mandibular anterior region, whitish in color and exhibiting no mobility. The ventral surface of tongue showed 2 mm x 2 mm ulceration (Figure 2). On



**Fig 1:** Patient with neonatal teeth and sublingual ulceration.



**Fig 2:** Sublingual ulceration on ventral surface of tongue.



**Fig 3:** Smoothing of incisal margin.

palpation, area elicited a pain response from the patient.

Examination of the rest of intraoral mucosa revealed no other lesions. Examination revealed two neonatal teeth, probably primary incisors which were having well-formed crowns. Based on clinical findings diagnosis of "Riga-Fede" disease was made.



**Fig 4:** After 15 days healed ulcer.

Conservative treatment was chosen as treatment of choice over extraction of the teeth. Smoothing of incisal margin was done (Figure 3) which led to healing of the ulcer (Figure 4) following which the mother informed on later appointments that the infant was feeding normally.

**DISCUSSION**

Major complication from neonatal teeth is ulceration on the ventral surface of the tongue caused by tooth's sharp incisal edge. Constant

trauma may create ulceration sufficient to interfere with proper suckling and feeding and put the neonates at risk for nutritional deficiencies.

The lesion was first described by Antonio Riga, an Italian physician in 1881. Histologic studies and additional cases were subsequently published by F. Fede in 1890<sup>10</sup>. It has subsequently been known as "Riga-Fede disease". Treatment of Riga-Fede disease has varied over the years. Early treatment consisted of excision of the lesion. Due to the erroneous diagnosis of the etiology, resolution of the lesion occurred only upon weaning of the child.

In case of mild to moderate irritation to the tongue, conservative treatment such as smoothing the incisal edge with an abrasive instrument is advocated<sup>11</sup>. Alternatively, a small increment of composite may be bonded to the incisal edges of the teeth<sup>12</sup>.

If the treatment option is extraction, this procedure should not pose any difficulties since these teeth can be removed with a forcep or even with fingers.

In this case, ulcerated area was small and age of patient was just 28 days so, reduction of incisal edges was carried out to prevent trauma to tongue during suckling. The pediatrician's concern over the infant's failure to gain weight due to ulceration's interference with suckling dictated the need for rapid resolution of the lesion. So smoothing margin of the neonatal tooth was chosen over extraction.

#### CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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