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## Research Article

### NEONATAL TEETH AND ITS CAUSES- A REVIEW

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#### ABSTRACT

The teeth that are present in a newborn's mouth are said to be Natal teeth. Neonatal teeth are the teeth, which emerge through the gingiva during the first month of life. This period of time is known as neonatal period. The incidence of Neonatal teeth will be different from one study to another. Neonatal teeth, on the other hand, are teeth that come into the baby's mouth within the first 10- 30 days of life. The objective of the present study is to present a review of the literature with important aspects about the Neonatal teeth and its causes.

#### Key Words:

Natal Teeth, Neonatal Teeth, Causes, Incisor, Primary dentition

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#### INTRODUCTION

Teeth in the living as well as the dead are the most useful objects in the field of anthropology and genetics also finding utility in the forensic investigation [1]. Teeth provide resistance to damage beyond in terms of bacterial decomposition and fire when rest of the body is damaged beyond recognition which makes them valuable tool in forensic investigation [2].

Child development from conception through the first years of life is marked by many changes. The Tooth eruption follows a chronology corresponding to the date, when the tooth erupts into the oral cavity [3]. Tooth eruption about 6 months of age is a milestone. It's both in terms of functional and psychological changes in the child's life and in emotional terms for parents. The expectations for the eruption of the first teeth are exciting issue. It is more exciting when the teeth appear early in the oral cavity than the expected time [4].

Eruption of teeth at or immediately after birth is relatively rare phenomenon. These teeth are known as Natal teeth if present at birth and Neonatal teeth if they erupt within 30 days of life (after birth) [5-7]. This Neonatal teeth varies considerably between the ratio 1:700 and 1:30,000. The highest prevalence is found in the only study that relies on personal examination of patients [8]. Eruption normally occurs in the lower incisor,

which may appear normal or be hypo plastic with poorly formed roots. One of the important current guiding principles of dentistry is to provide care for the early infants during the first year of life for maintaining the oral health. For this, it is necessary to know the dental needs occurring at this age in order to opt for more preventive conduct [9]. In 60 % of the cases, the neonatal mandibular incisors erupt prematurely without proper mineralization. Occasionally a child may be born with considerable number of his/ her deciduous teeth erupted that is the neonatal teeth. Several such cases have been cited. About 70 % of the neonatal teeth are firmly fixed but a small number subsequently become loose [10].

The Study of the neonatal teeth has been the subject of curiosity and study since the beginning of time, being surrounded by beliefs and assumptions. In 23 BC they believed that a splendid future awaited for male infants with neonatal teeth, whereas the same phenomenon was a bad omen for girls. In China, if the infant gets Neonatal teeth, then it was considered to be a bad omen for the entire family. In England, the belief was that babies with neonatal teeth would grow to be famous soldiers. In France, and Italy the belief was that this condition would guarantee the conquest of the world. Historical figures such as Zoroaster, Hannibal, Luis XIV, Mazarin, Richelieu, Mirabeau, Richard III, and Napoleon may also have been favored by Neonatal teeth. These are the various

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assumption among various countries regarding the neonatal teeth. We can clearly note the different superstitions of people among various countries regarding the neonatal teeth. Few believed that neonatal teeth is good and the rest thought it was an omen.[11,12,13].

However, it occurs only for one among 3000 births, people may not be aware of it but it is important to know about it and also to know how does it occurs. Few say that it occurs due to gene problem and few its due to many false believes. The Neonatal teeth is not a omen and it occurs due to the nature.

## DISCUSSION

### Etiology

The exact etiology of Neonatal teeth is unknown till date. But various factors have been suggested by many authors e.g. familial pattern like hereditary transmission of a dominant autosomal gene, [14] superficial position of tooth germ, [15] endocrine disturbances, [16] osteoblastic activity in area of the tooth germ, [17] infection or malnutrition, [17] febrile status, [17-18] hypovitaminosis [19] and syndromic association [20-21] like Hallerman-Streiff syndrome, Ellis-van Creveld syndrome More Details, Craniofacialdysostosis, etc. It is also due hormonal transformation.

There is no conclusive evidence of a correlation between early eruption (natal and neonatal teeth) and some other systemic condition or syndrome. [21]

**Types:** On the basis of clinical characteristics, the neonatal teeth were then classified into:

**Mature:** when they are fully developed in shape and comparable morphology to the primary teeth;

**Immature:** when their structure and development are incomplete.

The term mature indicates that the tooth is well-developed compared to the remainder of the primary dentition and that its prognosis is relatively good. In contrast, the term immature assumes the presence of an incomplete structure and it implies a very bad prognosis for the tooth in question [22]. Cunha RF in 2001 [23] classified Neonatal teeth into 4 clinical categories:

1. Shell-shaped Crown with absent root
2. Solid Crown with little or no root
3. Incisal margin of the crown visible clinically
4. Unerupted but palpable tooth

### Histological Characteristics

The Histological investigations have demonstrated that the most of the crowns of neonatal teeth are covered with hypoplastic enamel with varying degrees of severity [24- 29]. Absence of root formation, ample and vascularized pulp, irregular dentin formation and also due to the lack of cementum formation [30,31]. The Neonatal teeth was examined by, Cunha RF in 2001 [32]. When he visualized the neonatal tooth section under the microscope and observed that the normal dentin, except for certain irregular spaces in the region close to the amelodentinal union. With a larger pulp chamber too [33]. Microscopically the irregular interglobular areas have been observed. Which resembles the structure of Osteodentin. As well as an atypical arrangement of dentinal tubules. There was

a gradual decrease in the number of dentinal tubules from the crown (apical) to the cervical region [34].

According to the various, diagnosis we can come to an conclusion that it is important for the maintenance of the neonatal teeth for the normal dentition, since the premature loss of a primary tooth may cause a loss of space and collapse for the developing mandibular arch,[35] with a consequent malocclusion in permanent dentition.

### Diagnosis

The importance of a correct diagnosis of neonatal teeth has been pointed out by several investigator's [36-40]. They used clinical and also radiographic findings in order to determine whether these teeth belonged to the normal dentition or supernumerary. So that not even single indiscriminate extractions would be performed by mistake. A Relationship between a natal and neonatal tooth and adjacent structures, nearby teeth, and the presence or absence of a germ in the primary tooth area might determine whether it belongs to the normal dentition[41]. It should be pointed out that most Neonatal teeth are primary teeth of the normal dentition. There were general organ failure in infants, followed by death too because of the treatment. The two Investigators Riga and Fede histologically described the Lesion, which was later called as Riga-Fede disease[42]. According to other investigators other than these two [42-44], the detection of this lesion is an indication for the tooth extraction. Among the clinical reports, the neonatal teeth is found to be the main cause of the sublingual ulceration caused by suckling. EW (1991),[45] described a highly peculiar situation like the birth of a baby with a natal tooth and the presence of a sublingual ulcer observed immediately after birth which, according to the author, had probably been caused by suction during intrauterine life. The treatment option in this case was extraction. According to HC Rushalin 1958 [46] Kaur P, Sharma A, Bhuller N (2003), [47] proved that the Riga-Fede disease does not represent, by itself, it is an indication for extraction since an acute incisal margin can be relieved by smoothing it. Goho in 1996[44], reported that his treatment of a neonatal tooth as covering the incisal portion of the tooth with composite resin. COSTACURTA [48], reported that the two cases of treatment of Riga-Fede disease by covering the incisal margin with the photopolymerizable resin, which aided rapid healing of the ulcers. If the treatment option is extraction, this does not need any big treatment these teeth can be easily extracted with forceps or even with fingers. Tooth extraction is contraindicated in newborns (infants) because of the risk of hemorrhage. However, the administration of vitamin K before the procedure permits, safe extraction[49].

### Clinical Characteristics

Morphologically, the neonatal teeth may be conical or will be of normal size and shape and opaque yellow-brownish in color[50]. According to Bigeard *et al* in 1996[26], the dimensions of the crown of these teeth are smaller than those obtained by V Harilan 2001[26] for primary teeth under normal conditions. The term and neonatal tooth proposed by Massler and Savara in 1950 [38] were limited only to the time of eruption and not to the anatomical or morphological and structural characteristics.

### Complications and Treatment

The presence of the neonatal teeth may be a source of doubt about the treatment plan. With respect to this decision of maintaining or not these teeth in the oral cavity, some factors are supposed to be considered, such as implantation and degree of mobility and inconveniences during suckling, (interference with breast feeding), possibility of traumatic injury, and whether the tooth is part of the normal dentition or is supernumerary.

Berendsen in 1988 [51], reported a case of eruption of tooth-like structures after extraction of two neonatal teeth in the region of the lower incisors, which persisted in the oral cavity up to five years of age, when they naturally exfoliated. The decision to keep these teeth or not is based on the basic necessity of survival of living beings (ie, the possibility of feeding)[16]. Concerns shows that the teeth which erupt prematurely have less mineralization in it.

### CONCLUSION

Neonatal teeth were been considered as a good sin and also as a omen in olden days. But now recently it has been scientifically proved that it occurs due to genetic, hormonal, and the other few causes as discussed in this review.

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