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Management of Natal and Neonatal tooth: A series of Three rare Cases

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Abstract
The presence of teeth at birth (natal teeth) or within a month after delivery (neonatal teeth) is a rare condition. The teeth are often small, conical and yellowish and have hypoplastic enamel and dentin with poor or absent root formation. Negative cultural attitudes towards natal teeth demand parents counselling and vigilant management in relation to child protection. This report discusses cases in which infant required extraction of a mobile mandibular natal and neonatal teeth to avoid the risk of sublingual ulceration, difficulty and discomfort during suckling, laceration of the mother's breasts and aspiration of the teeth.

Introduction

The most widely accepted and followed definition of Natal and Neonatal teeth was given by Massler and Savara defined them as Natal and Neonatal teeth taking only the time of eruption as a reference.[1]Natal teeth are those teeth that are present at the time of birth and neonatal teeth are those teeth that erupt within first 30 days of life.[2] The teeth that do not confirm the categories and erupt within one to three and a half months after birth i.e. earlier than their normal eruption are called as Early Infancy teeth. Incidence of natal teeth is more than neonatal teeth and its ratio varies from 1: 2000 to 1: 6000.[1]Bodenhoff reported the incidence of natal and neonatal teeth to be 0.3-0.5%. Natal and neonatal teeth erupt in the same position as that of deciduous teeth in the arch, more common in mandibular arch than maxillary arch, and are more common in the incisor region than the canine and molar regions.[3] Various investigators noted that 85% erupt in mandibular incisor region, 11% in maxillary incisor region, 3% in mandibular canine region and 1% in maxillary canine and molar regions. Shor and Hajare noted that incidence is more in girls than in boys.[1]

Etiology of natal and neonatal teeth is unknown. Various investigators have put forth various views. During initiation and proliferation stage excessive development causes formation of natal teeth, Hyperactivity of osteoblastic cells within the tooth germ may also be a reason, as suggested

by another group of investigators.[4] Superficial positioning of tooth germs during developmental period may also be a reason.[1]Rao R S et al suggested endocrine disturbances, or they may be associated with various syndromes.[5]According to Yen V. et al the incidence of natal/ neonatal teeth in Muslim children is more than Hindu children.[6]Appearance of these teeth have been known to be like those of normal teeth, without any radicular portion due to lack of root formation. Ground section of natal and neonatal teeth showed hypomineralized enamel, irregular arrangement of enamel rods, irregular dentino-enamel junction, dentinal tubules, more cellular and numerous vascular channels with endothelial cells and large pulp chamber.[7] The article represents the three cases of natal and Neonatal teeth.

Case Report

This case series presents three cases, one with natal teeth and two with neonatal teeth who reported to the department of Pediatric dentistry, Narsinhbhai Patel Dental college &Hospital, Visnagar with parental complaint of difficulty in feeding the baby. The table shows age, sex, nature of teeth, and clinical features. Two cases were diagnosed as a Neonatal tooth and one case as Natal teeth. All teeth were extracted under topical anaesthesia. Extracted teeth exhibited short crowns with no roots.

Case No	Age	Gender	Tooth	History and Chief complain	Clinical feature	Diagnosis and Treatment Given
1	30 days	M	71,81	Erupted 10 days after birth. Difficulty in feeding	Mobile, localized inflammation, whitishopaque in colour. (Fig. 1)	Neonatal tooth Extracted. (Fig. 2)
2	10 days	F	71, 81	Teeth present at the time of birth. Difficultyin suckingthe breast milks.	Mobile, localized inflammation, yellow in colour. (Fig 3)	Natal tooth Extracted. (Fig 4)
3	60 days	M	71, 81	Erupted 10 days after birth. Difficulty in feeding	Mobile, localized inflammation, whitishopaque in colour (Fig 5)	Neonatal tooth Extracted. (Fig 6)

Figure 1: 71, 81 Neonatal Teeth

Figure 2: Extracted 71, 81 Neonatal Teeth

Figure 3 : 71, 81 Natal Teeth

Figure 4: 71, 81 Extracted Natal Teeth

Figure 5 : 71, 81 Neonatal Teeth

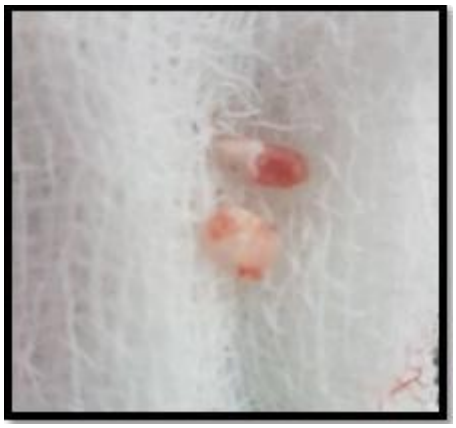

Figure 6 : Extracted 71, 81 Neonatal Teeth

Discussion

Since earlier days, beliefs and assumptions have surrounded the anomaly of eruption. Titus livias, in 59 B.C. considered natal teeth to be prediction of disastrous event. Malaysian communities consider neonatal teeth to be a good omen. Chinese community considers presence of these teeth as a bad omen and believed that when these natal teeth would start to bite either mother or father would die. Some Indian communities believe this as an unlucky baby, bad omen or devil's incarnation. In African tribes' children born with teeth were murdered soon after birth; because they were believed to bring bad luck to all they would contact. In England, the belief was that this condition would guarantee the conquest of the world.[1]

The incidence of natal and neonatal teeth has been estimated to be 1: 1000 and 1: 30,000. It is seen that 85 % of natal or neonatal teeth are or molars and only 1%are maxillary cuspids or molars and 1 % are supernumerary teeth.[8]A prevalence rate of 1 : 716 has been the highest rate reported by Kates et al. The teeth were in pairs in 61% to 76% of the cases.[9] There was no difference in prevalence between males and females. However, some authors reported a predilection for females. The high incidence of positive familial and hereditary history for natal and neonatal teeth has been noted in studies with the frequencies ranging from 8% to 46%.[8]

The natal and neonatal teeth are poorly formed/ developed, small conical yellowish-brown/whitish opaque teeth and have a hypoplastic enamel and dentin. Infrequently they may be of normal size and shape. Our reported cases showed rudimentary small yellowish teeth without roots.[1] According to Bigeard et al the dimensions of the crown of these teeth are smaller than those for the primary teeth under ordinary conditions. The natal and neonatal teeth are attached to a pad of soft tissue above the alveolar ridge, occasionally covered by mucosa with marked mobility.[5] Spouge and Feas by classified these teeth on the

basis of morphological characteristics, mainly into mature and immature teeth.[10]

Usually only one or two teeth erupt early, most of them are mandibular central incisors. Ooshima et al emphasized that the multiple natal teeth are extremely rare, however, some rare reports are available in the literatures about the occurrence of natal molars and canines. Tay et al reported a case of natal teeth, in which second upper molar and lower canines were involved.[11]

The finding of these teeth is done based on a complete history, physical examination of the infant and by clinical findings to rule out possibilities that they belong to normal dentition or supernumerary. So that no indiscriminate extractions would be performed. A proper examination canreveal a relationship between a natal/neonatal tooth and adjacent structures, nearby teeth; and presence or absence of a tooth germ in the primary dentition would determine whether or not latter belongs to normal dentition.[5]

Several factors should be considered prior to a treatment plan is decided: (1) degree of mobility and implantation, (2) convenience during suckling, (3) interference with breastfeeding, and (4) if the tooth is supernumerary or is part of the normal dentition.[7]

If these erupted teeth are diagnosed as part of the normal dentition, maintenance in the mouth is considered the primary treatment choice except if they become a source of injury to the baby. If they are implanted well, these teeth should be left in the arch and only removed when they interfere with feeding or when they are extremely mobile with a risk of aspiration.[2] Indications for removal include risk of dislocation, subsequent aspiration, and traumatic injury to the baby's tongue and/or the maternal breast.[7]

According to some investigators, the detection of Riga-Fede disease is an indication for natal/ neonatal tooth extraction; however, others do not recommend extraction since an acute incisal margin can be relieved by smoothing.[12] Tomizawa et al. reported that the treatment of Riga- Fede disease by layering the incisal edge with any photopolymerizable resin, which is helped in rapid healing of the ulcers. Having said that, most of these teeth exhibit evidence of hypomineralization.[7]

Natal or Neonatal teeth that show mobility of more than 1mmare indicated for extraction; this is due to the probability of aspirating or ingesting natal teeth. Another reason for the removal of the natal/neonatal tooth is to alleviate feeding difficulties or complications like Riga- Fede disease.[13] If extraction is the treatment of choice, it can be deferred till the child is 10 days of age or more and has proper blood levels of vitamin K. This ten-day waiting period is to allow the normal flora of the intestine to become established to produce vitamin K, an important factor for prothrombin production in the liver.[7] Since parenteral vitamin K prevents a life-threatening haemorrhagic disease of the newborn, the American Academy of Paediatrics recommends that all newborn be given a single intramuscular dose of 0.5 to 1mg of vitamin K. If it is not possible to postpone the extraction, a consultation with the paediatrician should be initiated, so they can assess if there is a need to administer vitamin K. Once extraction is performed, it is essential to remove the underlying dental papilla and Hertwig's epithelial root sheath during the extraction of natal tooth/teeth to prevent the development of root structure that could continue if these structures are left.[11]

Conclusions

Natal and neonatal teeth are sporadic occurrences in the oral cavity and proper evaluation and diagnosis are crucial to provide the best treatment option. Paediatricians are usually the first to detect these teeth and early consultation with the Paediatric dentist can prevent complications. The decision to maintain or remove these teeth should be evaluated in each case independently. Radiographic examination is an essential diagnostic tool. So far, no studies confirmed the cause and effect relationship with any of the

proposed theories. The etiology of natal and neonatal teeth, requires further investigations.

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