Natal Tooth in a 28 Weeks Premature Infant: A Rare Case Report

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ABSTRACT

The term natal tooth describes the tooth present at the time of birth. This is a rare case report of 31 weeks old premature infant with natal tooth. There is very little literature reporting about the natal or neonatal teeth in premature infants and its management.

Through this article we wish to bring awareness about the presence of natal tooth and its complications in premature infants and why it needs immediate attention and prompt treatment.

Keywords: Natal teeth, premature infant, low birth weight.

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I. INTRODUCTION

World Health Organization (WHO) defines preterm birth as birth occurring before 37 weeks of gestation or if the birth weight is below 2500g [1].

Preterm births which occur prior to 37 weeks gestation constitute to around 6 per cent of all live births in developed Western nations [2], [3]. While the survival rates of preterm children vary from >95 per cent for those with birth weights 2000-2500 g to around 50 per cent for those with birth weights of 700-800 g [2].

Delayed eruption is a well established phenomenon in premature infants in numerous cross-sectional studies [4], [5] and prospective, longitudinal studies [6], [7]. The reason for delayed eruption was co-related to gestational age [4], [5], [7], and or low birthweight [6]. In almost all the studies account that preterm babies' children have delayed primary and permanent teeth eruption [8], [9].

The presence of natal and neonatal teeth is unquestionably an aberration of biological chronology whose etiology is still not clearly established [10]. This condition has been correlated to several factors, such as superficial position of the tooth germ [11], [12], infection or malnutrition [2], febrile states [13], eruption accelerated by febrile incidents or hormonal stimulation [8], hereditary transmission of a dominant autosomal gene [12], [14], [15], osteoblastic activity inside the germ area related to the remodeling phenomenon [16], and hypovitaminosis [17]. There is no conclusive substantiation of a correlate early tooth eruption with systemic condition or syndrome. A few investigators, however, suggest that natal teeth could be connected with some syndromes such as Hallerman-Streiff [18], [19], Ellis-Van Creveld [18], craniofacial dysostosis, multiple steacystoma [20], congenital pachyonychia [12],

and Sotos Syndrome [10].

However, none of the case reports have described a natal or neonatal tooth as early as 31 weeks of gestation as in our case report and hence it is of great interest to the field of Pediatric Dentistry.

II. CASE REPORT

A male neonate born by emergency caesarean section at 28 weeks of gestation, the Apgar scores were 7 and 8 at 1 and 5 minutes respectively. The baby was shifted to the NICU for further management after initial steps of resuscitation. On admission in NICU the baby was pink, euthermic, HR-140/min, RR-70/min, RS- clear breath sounds, CVS- Normal heart sounds, CVS-normal heart sounds, PA- soft, no organomegaly, CNS-Cry, tone fair for gestation. No external malformations were noted.

Weight: 1.15kg 10th percentile.

Length: 37cm < 3rd percentile.

Head circumference: 10th percentile.

Presence of doubtful natal tooth and was referred for pediatric dentist consultation.

Antenatal history:

Primi, risk factors included IUGR with Ologohydramnios.

Post natal:

Parenteral history: Mother was Gestational diabetic mellitus and was on insulin. No familial history of natal or neonatal teeth.

III. ORAL EXAMINATION

Intra oral examination revealed, edema of gingival tissue with an unerupted but palpable tooth, Type 4 of Hebling classification [21] was noticed in the mandibular anterior

region. Dental radiograph could not be obtained to confirm the presence of the tooth, as the baby was in the NICU. We decided to wait and allow the tooth to erupt through the tissue. Within a week's time the tooth erupted and was grade 3 mobile Fig. 1.

Fig. 1. Neonatal tooth.

There was a discomfort to the baby while oral feeds and also the nurses reported bleeding during feeding. Keeping all these factors in mind we decided to extract the tooth.

The teeth were extracted under local anesthesia, which the patient tolerated well. The patient was reevaluated after 2 days, and the recovery was found to be uneventful. The extracted tooth had a shell like crown without any dentin deposition and was devoid of root.

Histopathology: Microscopic examination of the ground section of the tooth shows enamel rods, dead tracts and pulp canal. The clinical and histological features was representative of tooth.

Fig. 2. The clinical and histological features was representative of tooth

IV. DISCUSSION

With the considerable improvement in the survival rate of low birth weight infants (<2500 g) in the past few decades, much focus is diverted towards the prognosis of morbidity in survivors [22]-[24]. In a series of studies conducted by Seow et al. [4] to compare the dental eruption status of very low birth-weight (VLBW, <1500 g) children they have found that significant retardation of dental eruption compared with low birth-weight (LBW, 1500-2500 g) and NBW normal birth-weight (NBW, 2500 g) children, mainly before 24 months of age. The findings of his study also similar with that of previous investigators which found that the eruption of the first tooth was delayed in prematurely born children [6], [7].

Numerous complications have been described following the eruption of the natal and neonatal teeth. Partially erupted teeth maybe very painful especially when pressure is applied during suckling, which in turn could lead to the infant refusing the nipple. In addition to this the natal teeth may lacerate the breasts during feeding. If the teeth are loose and mobile in the early stages and there is a constant danger of the teeth becoming detached and either, swallowed or aspirated, especially during nursing. Natal teeth may also cause sublingual ulcerations (Riga-Fede) [25]-[28] or the loss of attachment with subsequent development of dentoalveolar abscess [29].

Some investigators advocate that the detection of Riga-Fede disease is a sign for natal/neonatal tooth removal; however, others do not recommend removal but instead relieve the acute incisal margin by smoothing [30]. Tomizawa et al. [31] suggested that layering the incisal edge with photopolymerizable would help heal the ulcers in Riga Fede disease. However, most of these Since these teeth are hypomineralized there is limited surface area of enamel present for resin bonding. To add to these factors' moisture control poses as significant deterrent to resin retention. And the dislodged composite resin will be ingested by the infant [30]. Hence to avoid any complication, early diagnosis and adequate treatment should be of prime concern in the management of natal teeth [32]. When extraction of a natal tooth is indicated, it should be performed by a Pediatric dentist to avoid unnecessary trauma to the area [33].

The American Academy of Pediatrics (AAP) policy statement on dental care recommends that all infants should receive an oral health assessment from the primary care provider by the time they are 6 months of age. The AAP and American Academy of Pediatric Dentistry (supported by the American Dental Association and the Academy of General Dentistry) recommend that infant born premature should be referred to a dental provider on the basis of risk assessment as early as 6months of age, 6months after the first tooth erupts and no later than 12 months of age [34].

On the contrary to all the studies relating to premature birth, very low birth weight and delayed tooth eruption, we report a case of natal tooth in a 31 week old premature infant.

V. CONCLUSION

In the present case, no underlying cause for the natal tooth was evident; but it could be because of the superior placement of the tooth germ. There was no hereditary influence, and the patient is under periodic follow-up.

As Pediatric dentists we should make every effort to educate parents and the medical community on the preferred treatment for natal teeth and the need for continued periodic follow for adequate preventive oral health care measures. Extraction of the natal tooth should be followed by the curettage of the socket to prevent continued development of the cells of the dental papilla.

We conclude that infants with prematurely erupted teeth must be immediately referred to the Pediatric Dentist for detailed examination and for further treatment planning and management of the case. Parent counseling to bring about awareness about the sequelae of events following preterm infants and oral health is very essential. Longitudinal and more varied studies are also necessary to confirm the etiology and nature of natal and neonatal teeth and to determine their due course in the infant's oral health.

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