

Natal Teeth - Case Series and Management

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ABSTRACT

First year of Child development is marked by many changes of which eruption of first tooth into the oral cavity is considered an important milestone. It has shown to follow a chronology and has been established in the literature corresponding to the date when tooth erupts into the oral cavity. Depending on hereditary, endocrine and environmental factors they may be subjected to variations. However, at times, chronology of tooth eruption suffers a more significant alteration in terms of onset, with the teeth being present at birth or arise during the first month of life poses greater concern due to feeding difficulties along with societal unpleasant reaction towards it. Objective of this paper is to present case series of natal and neonatal teeth with considerations in the management.

Keywords: Natal teeth, neonatal teeth, mandibular anterior region, supernumerary teeth.

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I. INTRODUCTION

Eruption of teeth in newborn is considered a relatively rare phenomenon and for centuries it has been associated with manifold superstitions among different ethnic groups. The teeth present at birth are called Natal teeth and the ones that erupt during first 30 days of life are called Neonatal teeth - term coined by [1].

These teeth have a fundamental importance, as they may pose various challenges to parents, pediatricians and dental surgeon. These teeth cause difficulty during suckling, deformity or mutilation of tongue, leading to inadequate nutrition to the infant, laceration of mother's breast and increased chances of aspiration of the teeth [2]. Incidence of natal and neonatal teeth varies from 1:2,000 to 1: 3,500 commonly seen in mandibular Central Incisor region followed by maxillary Central Incisor region and least seen in area of mandibular Cuspids/Molars [3], [4]. Clinically with respect to size and shape these teeth resemble to the normal primary dentition but often are smaller, conical, and yellowish in color, due to hypoplastic enamel and dentin and have poor or not root formation.[5] Though various studies have shown no sex prediction. Anegundi has reported higher incidence in female child [6].

II. CASE STUDIES

A. Case I

A 11-day old male baby presented with natal teeth in lower front tooth region of the jaw. Mother reported difficulty to feed and the child's inability to suck the breast

milk. Baby weighed 2.9 kgs was born through a normal delivery and no other abnormalities detected in perinatal history. No history of consanguineous marriage.



Fig. 1. A 11-day old male baby presented with natal teeth in the lower front tooth region.



Fig. 2. Extracted natal teeth.

Intraoral examination revealed presence of 2 natal teeth in mandibular anterior region (Fig. 1). The teeth were severely mobile and there was a risk of aspiration. Parents were explained and treatment plan was to extract the teeth under LA with prophylactic vitamin K. Consent was taken and teeth were extracted (Fig. 2) and careful curettage of the sockets was performed in order to remove any odontogenic cellular remnants, hemostasis was achieved, and post extraction instructions were given.

B. Case II

A 35 weeks' preterm girl baby born through a C-section, weighed 1.92 kgs with congenital heart defect. The baby was in NICU, on examination 2 natal teeth in the mandibular Central Incisor region were present. Baby required intubation, during the process one natal teeth which was extremely mobile exfoliated, whereas another natal teeth was firmly held by the soft tissue (Fig. 2). Child had no problem with formula feed hence tooth was retained. Child unfortunately did not survive.



Fig. 3. 35 weeks' preterm girl baby with natal teeth in the lower jaw.

C. Case III

A 27-day old male baby presented with natal teeth in the lower front tooth region of the jaw. Intraoral examination revealed presence of submerged 2 natal teeth in mandibular anterior region held firmly by the soft tissue not likely showing the risk of aspiration. (Fig. 3) However, mother did not report any difficulty to feed the child and neither the child expressed disturbance while taking the feed. The baby weighed 2.9 kgs was born through a normal delivery and no other abnormalities detected in perinatal history. No history of consanguineous marriage. Parents wanted to consult a Pedodontist as recommended by the Pediatrician.

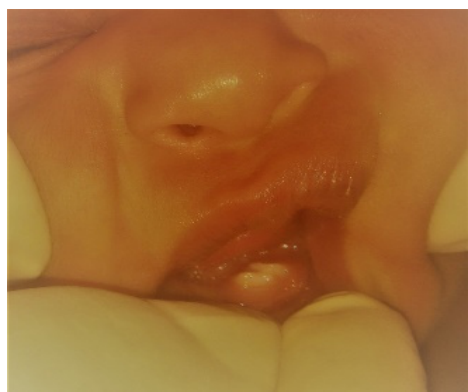


Fig. 4. A 27-day old male baby presented with natal teeth in the lower front tooth region.

III. DISCUSSION

Natal and neonatal teeth was first documented by Titus Livius, in 59 BC, since then they have been a subject of curiosity and study. As early as 23 BC, Gaius Plinius Secundus (the Elder), believed that a splendid future awaited male infant with natal teeth. In some countries, the children born with teeth were considered to be monstrous and bearer of misfortune. Chinese tradition believed it to be bad omen for girls [8]. Previously these teeth had various terminology and synonyms like Dentitia praecox, Dens connatalis, congenital teeth, fetal teeth, infancy teeth, predeciduous teeth and precocious dentition [8]-[12]. Due to lack of specificity and accuracy in describing the condition they were subsequently discontinued. Presently the term "natal" and "neonatal" teeth described by Massler and Savara are most accepted [1]. It broadly describes the teeth that are erupted at birth or shortly thereafter. Teeth that do not confirm the criteria described for them and erupt within one to 3 ½ month are called Early Infancy Teeth [13].

These teeth have been classified by various authors of which most commonly used is Spouge and Feasby [13] in 1966 according to department of Maturation.

(1) A mature natal or neonatal tooth is the one which is nearly or fully developed and has relatively good prognosis for maintenance.

(2) The term immature natal or neonatal teeth, on the other hand, implies a tooth with incomplete or substandard structure; it also implies a poor prognosis.

Reference [14] classified according to appearance of each natal tooth into the oral cavity.

- 1) Shell-shaped crown poorly fixed to the alveolus by the 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 incisal margin of the crown through the gingival tissues.
- 4) Edema of gingival tissue with an unerupted but palpable tooth

Mobility of teeth is mainly due to incomplete root formation and its attachment with the oral mucosa, in turn may result in degeneration of Hertwigs Epithelial Root Sheath, changes in radicular portion of teeth with respect to cervical dentin and pulp cavity and cementum. Microscopically, these teeth exhibit very thin Enamel layer with varying degree of mineralization rarely showing absence of enamel was first described by Howkin in 1932 and later well detailed by [15]. Later Fried *et al.* demonstrated premature eruption of teeth resulted alteration in amelogenesis resulting in metaplastic alteration of epithelium (columnar to stratified squamous type) [6].

Dentin may show alteration with atypical disposition of dentinal tubules at the cervical third. Occasionally Osteodentin, non-scalloped irregular dentinal tubules are present. Pulp chamber and canal are wider, highly vascularized with few cells. Often no cementum or acellular cementum thinner than normal is demonstrated [16], [17].

Surface topography of Natal teeth and Neonatal teeth were studied by Jasmine and Clergeau-Guerithault using SEM showed hypoplastic enamel, depressed areas and lack of enamel at the incisal edge [18]. Uzaima *et al.* demonstrated thickness of enamel to be about 280 microns

compared to 1200 microns in normal teeth suggestive of retarded development due to incomplete mineralization at the time of birth [19]. Radiographically these teeth show hollow calcified cap of enamel and dentin without pulp tissue, like a celluloid crown in shape [20].

It is very important to investigate the probable local or systemic factor that could be related with the eruption of natal teeth and their association with other pathologies. Few syndromes reported to be associated with natal teeth and neonatal teeth include Ellis-Van Creveld (Chondroectodermal Dysplasia) [21], Pachyonychia Congenital (Jadassohn-Lewandowsky), Hallermann-Streiff (Oculomandibulodyscephaly with Hypotrichosis) [22], Rubinstein-Taybi, Steatocystoma Multiplex, Pierre-Robin, Cyclopia, Pallister-Hall, Short Rib-Polydactyly (type II), Wiedemann-Rautenstrauch (Neonatal Progeria), Cleft Lip and Palate, Pfeiffer, Ectodermal Dysplasia, Craniofacial Dysostosis, Multiple Steatocystoma, Sotos, Adrenogenital, Epidermolysis-Bullosa Simplex including Van der Woude, Down's Syndrome [23], and Walker-Warburg Syndromes [24].

Diagnosis is completely based on history and physical examination. If possible, radiographic examination is carried out to rule out normal dentition or supernumerary teeth to avoid indiscriminate extractions. It is said that only about 1% - 10% of them are supernumerary and above 90% belong to premature eruption of primary dentition [25].

Various factors to be considered before a treatment plan includes

- 1) degree of mobility and implantation (mobility > 2mm),
- 2) convenience during suckling,
- 3) interference with breastfeeding and
- 4) if the tooth is supernumerary or is part of the normal dentition
- 5) other systemic factors.

If extraction is the treatment of choice, it can be deferred till the child is 10 days of age to achieve adequate blood levels of vitamin K. This will also allow normal flora of the intestine to become established to produce vitamin K, which is an essential factor for prothrombin production in the liver. American Academy of Pediatrics recommends that all newborns be given a single intramuscular dose of 0.5 to 1 mg of vitamin K with parental consent [26].

A few infants did present sublingual ulcerations, or Riga-Fede disease which may be caused by constant traction due to tongue tie. In cases which had mild tongue irritation, conservative approach such as smoothing the incisal edge can be considered as a treatment option. However, in cases with a large, ulcerated area, irritation may persist warranting extraction [27].

According to Padmanabhan *et al.* smoothing of the incisal edge not only reduces the ulceration but also helps to avoid maternal wounding during breastfeeding [28].

Reference [29] described building the incisal edge with composite resin, can facilitate rapid healing of an ulcer on the tongue. However, as most of these teeth exhibit enamel hypoplasia and limited surface area of enamel for resin bonding and also difficult to achieve moisture control and cooperation from the infant is considered as treatment option only when retaining the teeth is absolute necessary. Clinicians should also be aware of risk of composite resin

aspiration [30], [31].

In this case series, the first case tooth was mobile, child was fit hence extraction was carried out. In the second case, history of preterm birth, systemic conditions, low birth weight, these factors need to be considered in treatment planning. Team discussion consisting of Anesthetist, Pediatrician and Pediatric Dentist is important for implementing the treatment. On the contrary, low birth weight and prematurity may be associated with delayed dental eruption in the Primary dentition. In the third case teeth were submerged, parents were educated about their future eruption and follow up was advised. We have discussed various treatment options for neonatal teeth depending on clinical findings, preterm baby with systemic complications as well as considering the importance of parental consent. Very few case reports in literature suggest treatment protocols for preterm baby with systemic complications presenting with natal teeth.

IV. CONCLUSION

Babies born with Natal and Neonatal teeth pose challenges to both parents and pediatrician. It is very important for pediatric dentist to make every effort to educate parent and medical community regarding the preferred treatment of such teeth. Decision to either extract or retain should be evaluated in each case keeping in mind scientific knowledge, clinical scenario and parental opinion. Radiographic examination can be used as an auxiliary tool for differential diagnosis between supernumerary teeth and prematurely erupted primary teeth. When teeth are considered mature and belong to normal primary dentition should be maintained using all possible clinical resources. More efforts should be placed on longitudinal and divergent studies to confirm the etiology, incidence, prevalence and characteristics of natal and neo natal teeth in full term as well as pre term babies in Indian scenario.

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