Natal Teeth: A Review

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The incidence of natal teeth is approximately 1:2,000 to 1:3,000 live births. The most commonly affected teeth are the lower primary central incisors. Natal teeth usually occur in pairs. The eruption of more than two natal teeth is rare. The majority of natal teeth represent the early eruption of normal primary deciduous dentition. Less than 10% of natal teeth are supernumerary. Natal teeth might resemble normal primary dentition in size and shape; however, the teeth are often smaller, conical and yellowish, and have hypoplastic enamel and dentin with poor or absent root formation. Complications include discomfort during suckling, sublingual ulceration, laceration of the mother's breasts and aspiration of the teeth. A dental roentgenogram is indicated to differentiate the premature eruption of a primary tooth from a supernumerary tooth. Tooth extraction is indicated if the tooth is supernumerary or excessively mobile. If the tooth does not interfere with breastfeeding and is otherwise asymptomatic, no treatment is necessary.

Key words: natal teeth ■ complications ■ dental roentgenogram

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INTRODUCTION

The normal eruption of the primary teeth typically begins at six months of age.[1] Natal teeth are present at birth and are usually a benign problem.[2] However, natal teeth might interfere with breastfeeding and, if loose and mobile, might be swallowed or aspirated during nursing.[1,3] This article reviews the epidemiology, etiology, clinical presentation, complications and management of natal teeth.

HISTORICAL HIGHLIGHTS

Natal teeth were reported during Roman times by Titus Livius (59 BC) and Caius Plinius Secundus (23 BC) and were described in the cuneiform inscriptions found at Nineveh.[4] Superstitions and folklore about natal teeth have varied from claims that affected children were exceptionally favored by fate to the belief that they were doomed.[2,5] Historical figures, such as Richard III, Louis XIV, Napoleon, Mirabeau, Mazarin, Cardinal Richelieu, Zoroaster and Hannibal, were described as examples of the former.[5] In England, infants born with natal teeth were considered destined to be famous soldiers, while those born in France and Italy were considered future conquerors of the world.[3] In China, Poland, India and Africa, affected children were considered monsters and bearers of misfortune.[6] Allwright reported a Chinese patient in whom extraction was requested so that the tooth, together with the "attending evil spirits", could be disposed of in the middle of Hong Kong Harbor.[6]

PREVALENCE

Although eruption of the lower deciduous incisors is normal at birth in many mammals, natal teeth are rare in humans.[2] The incidence of natal teeth ranges from 1:2,000 to 1:3,500 live births.[2,4,7,8] Leung studied 50,892 infants delivered over 17 years and found the incidence of natal teeth to be 1:3,392 live births.[2] The condition is slightly more common in females.[1,2,8] Natal teeth are rare in extremely preterm infants.[9] There is a racial variation in the incidence;

the problem is more common among infants of some American Indian tribes.[10]

ETIOLOGY

The exact etiology is not known. Infection, febrile states, trauma, malnutrition, superficial position of the tooth germ, hormonal stimulation and maternal exposure to environmental toxins have been implicated as causative factors.[3,11] Gladen et al. reported that 13 (10%) of 128 infants born to mothers who were heavily exposed to polychlorinated biphenyls and dibenzofurans during the Yusheng environmental accident in Taiwan had natal teeth.[11] Alaluusua et al. did not find any association between milk levels of polychlorinated biphenyls and dibenzofurans, and the occurrence of natal teeth, and suggested that the prevailing levels of polychlorinated biphenyls and dibenzofurans are likely below the threshold to cause perinatal eruptions of teeth.[12]

The condition might occur as a familial trait since a positive family history has been reported in 8–62% of cases.[13] Hereditary transmission of an autosomal dominant gene has also been suggested.[3,14] Hyatt reported a family in which five siblings were born with natal teeth.[14]

Natal teeth are present in 2% of infants with unilateral cleft lip and palate and 10% of infants with bilateral cleft lip and palate.[15] Natal teeth have been reported in association with syndromes such as Ellis-van Creveld (chondroectodermal dysplasia), Jadassohn-Lewandowsky (pachyonychia congenita), Hallerman-Streiff (oculomandibulofacial syndrome with hypotrichosis), craniofacial dysostosis, steacystoma multiplex, Sotos, Wiedemann-Rautenstrauch, Meckel-Gruber and Pierre Robin.[1,2,4,16]

CLINICAL CHARACTERISTICS

The most commonly affected teeth are the lower primary central incisors (85%) (Figure 1), followed by the maxillary incisors (11%), mandibular canines and molars (3%), and maxillary canines and molars (1%).[13] The strong predilection for the lower central incisors is consistent with the normal order of eruption of primary deciduous teeth. Natal teeth usually occur in pairs.[2,13] The eruption of more than two natal teeth is rare. Masatomi et al. reported an infant with fourteen natal teeth.[17]

The majority of natal teeth represent the early eruption of the normal primary deciduous dentition.[2,7,15] Less than 10% of natal teeth are supernumerary.[7,13,18]

Natal teeth might resemble normal primary teeth in size and shape; however, the teeth are often smaller, conical and yellowish, and have hypoplastic enamel and dentin with poor or absent root development.[13,18] The dysplastic enamel might correlate with the duration of gingival covering.[8] Most natal teeth are mobile.[18,19]

Four clinical categories of natal teeth have been described, including a shell-like crown structure loosely attached to the alveolus by gingival tissue with no root, a solid crown loosely attached to the alveolus by gingival tissue with little or no root, eruption of the incisal margin of the crown through gingival tissue, and edema of the gingival tissue with an unerupted but palpable tooth.[20,21]

HISTOLOGICAL CHARACTERISTICS

Notwithstanding the normal basic structure of natal teeth, early eruption is associated with abnormal mineralization of the enamel.[4] Histologically, the majority of natal teeth have dysplastic or hypomineralized enamel, irregular dentin and osteodentin in the cervical portions, and interglobular dentin in the coronal regions.[1,4,13] The incisal edge might lack enamel. Both Hertwig's sheath and cementum might be absent.[13,18] There is often an increase in the number of dilated blood vessels in the pulpal tissue.[13,18] Root formation is often incomplete.[3,4]

COMPLICATIONS

Complications that arise from the presence of natal teeth include discomfort during suckling, laceration of the mother's breasts, sublingual ulceration (Riga-Fede disease) with resultant feeding refusal, and aspiration of the teeth.[2,7]

DIFFERENTIAL DIAGNOSIS

Bohn's nodules and epulis might be confused with natal teeth. Bohn's nodules are usually multiple and found along the buccal and lingual aspects of the mandibular and maxillary ridges.[22] These remnants of mucus-gland tissue are firm, whitish and

Figure 1. A newborn infant with a deciduous right lower central incisor. The left deciduous lower central incisor was palpable but covered with gingival tissue.

have a rice-like appearance, are asymptomatic, do not interfere with feeding and are spontaneously shed within several weeks. Epulis are tumor-like growths of the gum that might be either sessile or pedunculated, and are reactive rather than neoplastic lesions. Other differential diagnoses include lymphangioma and hamartoma of the alveolar ridge.

INVESTIGATION

A dental roentgenogram is always indicated to differentiate the premature eruption of a primary deciduous tooth from a supernumerary tooth.[2,3] Ideally, this study should be performed in the neonatal period. The study also provides information about tooth root development; the relationship of the natal tooth to adjacent teeth; and the status of the enamel, dentin and radicular structures.[2,23]

MANAGEMENT

If the tooth does not interfere with breastfeeding and is otherwise asymptomatic, no intervention is necessary.[2] Tooth extraction is indicated if the tooth is supernumerary or if the tooth is poorly implanted and excessively mobile, which is associated with a risk of aspiration.[2,4] Consultation with a pediatric dentist is strongly recommended, especially if tooth extraction is a consideration. Extraction of the tooth should be followed by curettage of the socket to prevent continued development of the cells of the dental papilla.[13] Failure to curette the socket might result in the eruption of odontogenic remnants and necessitate future treatment.[19] Riga-Fede disease is not an indication for extraction. The preferred treatment of Riga-Fede disease includes smoothing the rough incisal edges or the placement of round smooth composite resin over the incisal edges.[3,24] Early extraction of a primary natal tooth might lead to overcrowding of the permanent teeth, since the spaces originally occupied by the extracted tooth might close and be occupied by the adjacent teeth.[2,4] This development is not inevitable. To reported on 48 children with 72 natal teeth.[21] Fifty-six teeth were extracted, and no appreciable space loss occurred following the extractions.[21] Root development occurred in the teeth that were not extracted.

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