CASE REPORT

Natal teeth in premature dizygotic twin girls

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SUMMARY

Presence or eruption of teeth immediately at or after birth is a rarely reported phenomenon. This condition is referred to as natal teeth, neonatal teeth, congenital teeth, fetal teeth, predeciduous teeth and dentitia praecox. The most affected teeth are lower primary central incisors with the incidence of 1:2000 for natal and 1:3500 for neonatal teeth. The aetiology of this anomaly is still not clear, however, attributes have been reported in relation to congenital teeth, multiple factors and some syndromes. The management of such cases depends on clinical characteristics of natal or neonatal teeth, as well as complications that they might cause. The aim of this paper is to discuss a rare case of occurrence of two natal teeth in both premature dizygotic twin female babies with specific emphasis on the literature review related to concerns regarding prevalence, aetiology, clinical characteristics, differential diagnosis, complications and management.

BACKGROUND

Presence or eruption of teeth immediately at or after birth is a rarely reported phenomenon in the medical and dental literature. Whenever natal/neonatal teeth are present in a newborn's mouth, they raise concern for the parents, mainly related to problems with breast feeding. Difficulties arise from pain or ulcerations in the mother's nipple or pain and ulceration of the ventral surface of the newborn's tongue, a condition known as Riga-Fede disease. The ultimate result may be dehydration and failure to gain weight.¹

On the basis of the time of eruption, teeth observed at birth are considered as 'natal teeth', while teeth observed within the first 30 days are 'neonatal teeth'. These teeth have been further categorised based on clinical features as mature and immature.² Mature teeth are those that are fully developed in shape and comparable in morphology to the deciduous teeth, while immature teeth are those in which structure and development are incomplete. Other synonyms for such prematurely erupted primary teeth are 'congenital teeth', 'fetal teeth' or 'dentitia praecox'.

Neonatal teeth often present with hypoplastic enamel and underdeveloped roots with resultant mobility, however, such teeth also should be further classified according to their degree of maturity.^{2,3} Natal/neonatal teeth may resemble normal primary teeth; but, in many instances, they are poorly developed, small, conical, yellowish, with white hypoplastic enamel and dentine, and with poor or total failure of development of roots.⁴

The aetiology of this anomaly remains unknown, although correlations have been observed with

series of aetiological factors. The most accepted theories regarding the cause and occurrence of such condition are:

- ▶ Superficial position of tooth germ in alveolar bone during development,³ or osteoclastic activity within tooth germ area (bone remodelling)⁵
- ▶ Maternal-related factors such as dietary deficiencies, poor maternal health, endocrine disturbances and pyelitis and hypovitaminosis during pregnancy, excessive secretion of pituitary, thyroid or gonads⁶
- ▶ Febrile state—increased body temperature can affect the normal eruption of teeth, for example, fever and exanthemata during pregnancy can cause premature eruption of teeth^{6,7}
- ▶ Hereditary transmission of an autosomal dominant gene, with a familial trait in 8–62% of cases⁸
- ▶ Certain syndromes and newborns with orofacial clefts.⁹

It is accepted by many authors that the prevalence of natal and neonatal teeth is somewhere between 1:2000 and 1:3500, respectively.⁹ The gender prediction of natal and neonatal teeth in males and females is controversial,¹⁰ with some authors giving a higher ratio of occurrence in females (up to 66%) against males (up to 31%),¹ and others suggesting no correlation with gender.³ Natal teeth are more common than neonatal teeth.^{2,7,8} Previously, a similar case was reported with single neonatal teeth in fraternal twin girls.¹¹ However, in this paper, we discuss occurrence of two natal teeth in premature dizygotic twin females, which has very rarely been reported.

CASE PRESENTATION

One-month-old twin girls were referred by their paediatrician to the department of pediatric and preventive dentistry, for the evaluation of teeth present in mandibular primary incisor region. When asked about their prenatal and antenatal history, the parents revealed that both girls were born prematurely, at 32 weeks of gestation. They were next in the family, after an elder, now 4-year-old, brother. For the first 15 days, both girls were kept in a ultraviolet chamber and were exclusively breast fed until the date of examination. Because of their premature birth, both girls were slightly under weight, however, their overall general health was good. No history of any dental developmental anomalies was reported in either, maternal or paternal, family. The parents were, naturally, worried about the presence of teeth in their infants' mouths at birth.

Intraoral examination revealed the presence of two completely erupted natal teeth in each infant's mouth.

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In infant 1, a mandibular right primary central incisor was firm while left primary central was showing displacement from its position and slight mobility (figure 1).

In infant 2, a mandibular right primary central incisor was slightly mobile exhibiting grade I mobility and left central incisor was firm; they were close to one another (figure 2).

The collars of gingival tissues surrounding the congenital teeth in both girls were found to be slightly inflamed without any sign of bleeding, as reported by the parents. The natal teeth present in both infants' mouths were ovoid to trapezoid in shape, with presence of a few mamelon-like indentations on the incisal edges. The incisal one-third of the crowns showed normal appearing matured enamel-like tissues, while the middle and cervical two-thirds of the coronal enamel were yellowish to brown in colour, revealing hypomaturation or hypocalcification. On palpation and exploring the crowns of the natal teeth with a blunt probe, the enamel was found to be soft without presenting a scraping sound, indicative of hypocalcification of the teeth.

The maxillary arches of both infants showed the presence of incisive papilla in the midline with dental grooves separating unerupted primary central incisors, lateral incisors and canines.

On asking the parents about the feeding status of the girls, it was revealed that the mother felt neither pain nor irritation while feeding. She was comfortable feeding the girls and feeding was complete. Careful examination of the girls' oral cavity showed no evidence of ulceration and no inflamed tissues due to trauma. The parents were given complete information about the presence of natal teeth in infants' mouths. On the basis of all clinical findings, it was decided to retain the natal teeth since they would not pose problems. The parents were reassured and oral hygiene instructions were given. Follow-up examination of the infants was planned at a 6-month interval.

INVESTIGATIONS

Radiographic examination of the natal teeth was difficult due to the very small mouth opening and the excessive crying of the infants.

DIFFERENTIAL DIAGNOSIS

Natal and neonatal teeth are easily diagnosable. Although some clinical conditions may create confusion, radiographs and

Figure 1 Intraoral photograph showing natal teeth in mandibular anterior region (infant 1).

Figure 2 Intraoral photograph showing natal teeth in mandibular anterior region (infant 2).

histological examination can give confirmatory diagnosis for natal and neonatal teeth. The differential diagnosis of erupted and unerupted natal/neonatal teeth include supernumerary teeth (incidence 1–10%),⁸ inclusion cysts such as epulis and odontogenic hamartomas,¹² Bohn's nodules and dental lamina cysts.¹³

TREATMENT

The natal teeth observed in these twins were quite firm; the mother had no difficulty feeding and the infants had no trouble suckling. Keeping in mind the importance of growth and preventing loss of developing the arch space, it was decided to retain the teeth, with proper maintenance of oral hygiene. No interventional treatment was advised for the twins.

OUTCOME AND FOLLOW-UP

On recall appointment, satisfactory feeding by the mother and weight gain of the twin babies were observed.

DISCUSSION

The occurrence of multiple natal teeth in dizygotic twins is reported very rarely in the literature. In the present case, though the authors observed the presence of two natal teeth located in the lower central incisor region, their position and appearance varied in each infant. Such variation is always observed in non-identical twins. Appropriate and timely therapeutic management of natal and neonatal teeth depends solely on clinical presentations and complications they might cause during their course in the infant's mouth. The treatment plan includes preservation or extraction of the congenital teeth depending on many factors. If the teeth are not interfering with nutrient intake and not causing difficulty to the infant and mother, and if the infant is otherwise asymptomatic, no intervention should be made;¹⁴ and the importance of the teeth during growth should be explained to the parents.^{9–11} Retention of natal and neonatal teeth that are part of normal primary dentition is suggested, to prevent possible space loss.¹³ The teeth should be left as long as possible in order to decrease the possibility of removing permanent teeth buds along with the natal and neonatal teeth, or the risk of making them defective.¹⁵ Natal and neonatal teeth that remain stable beyond 4 months have a good prognosis.¹ For teeth

causing trauma, the preferred conservative treatment consists of smoothing any rough incisal edges, or placing round, smooth composites over the incisal edges.¹⁵ If retained natal and neonatal teeth are causing difficulty to the mother during feeding, use of breast pumps and storing of milk is recommended.¹⁴ The gingival tissues surrounding natal and neonatal teeth may occasionally become oedematous and haemorrhagic due to plaque accumulation. In such a condition, inflammation of gingival tissue around the teeth can be controlled by proper cleaning of the area and application of chlorhexidine gel three times a day.¹¹ Extraction as a treatment of choice for natal and neonatal teeth is indicated if the teeth are supernumerary, if there is poorly developed soft tissue growth,¹⁰ or if the teeth interfere with nasoalveolar moulding,¹⁶ or present an abscess.¹⁷ Other indications for extraction include the teeth presenting a likely possibility of being aspirated or swallowed due to excessive mobility or spontaneous exfoliation,¹⁸ teething symptoms and associated infantile diarrhoea,² and ulceration of the mother's nipple or ventral surface of the baby's tongue (Riga-Fede

disease), which ultimately leads to feeding difficulties, discomfort, refusal for nursing and dehydration.¹

In the present case, since the teeth were firm and feeding was asymptotic, it was decided not to extract the teeth. The parents were informed about all the complications mentioned above that could possibly occur in the future and educated on maintaining proper oral hygiene with timely follow-up.¹³

Competing interests None declared.

Patient consent Obtained.

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Learning points

- When natal or neonatal teeth are encountered, confirmation of the diagnosis and accomplishment of the correct therapy based on the individual characteristics of each case are important.
- Natal and neonatal teeth that belong to the normal series of primary dentition, without any clinical problems, should be retained for proper development of the arches.
- Parents should be informed about the importance of these teeth in relation to the growth and eruption of adjacent teeth, as well as hygiene requirements. Paediatric dentists can play a major role in the proper guidance of patients suffering from such conditions.
- Periodic recall and follow-up care of such patients is required for monitoring timely growth and development of children at a later age.

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