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Case Report

A rare case report of natal tooth, neonatal tooth (dentitia praecox) and fibrous hyperplasia (Riga fede disease) of same newborn patient

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ABSTRACT

The natal tooth is present at the time of birth and neonatal tooth erupts within first 30 days of birth. Both are considered as an anomaly of a child. Due to mechanical irritation of those teeth there may be a chance of traumatic ulceration on the ventral surface of teeth known as Riga Fede disease (RFD). The term is used for the lesion in case of child less than two years old. The age above two years the term coined as traumatic granuloma. It may lead to a serious condition where the child denies to take any food or to suck breast milk due to the painful condition. In the present case study 21 days old newborn came to the clinic with a complaint of ulcerative lesion on the ventral surface of the tongue which was interfering in suckling. On examination 8 X5 mm ulcer extending from anterior border of the tongue to lingual frenum was found along with two mandibular incisors. He was detected with natal tooth (at the time of birth) and neonatal tooth (erupted on 16th day) which caused RFD.The case report throws some light on a possible treatment approach for successful management of the condition.

1. Introduction

Natal tooth of a child is defined as a tooth that is already present at birth, which differs from Neonatal tooth which usually used to emerge in during the first 30 days after birth. Natal teeth are more frequent than neonatal teeth with an approximate ratio of 3:1. Neonatal and natal teeth are considered as an anomaly which has a fundamental importance from the point of view of a dental surgeon as well a pediatrician as patients with dentitia praecox face numerous problems like pain in suckling breast milk and refusal to feed which may lead to nutritional deficit, dehydration and growth retardation. Sometimes from continuous mechanical friction from natal or neonatal teeth there is a deformity or mutilation of tongue is observed.[1] Riga Fede disease (RFD) is an uncommon benign mucosal ulceration usually takes place on the ventral surface of tongue because of the repetitive trauma due to forward and backward motion of the tongue over the edges of mandibular anterior incisors. There may be complete cessation of suckling reflex due to the severe painful condition.[2] Various terms are there to describe the lesion, like Riga's disease, Riga-Fede's disease, sublingual ulcer, sublingual granuloma, traumatic sublingual ulceration, eosinophilic granuloma, traumatic eosinophilic ulceration of the tongue and oral mucosa, sublingual fibrogranuloma, sublingual growth in infants and traumatic atrophic glossitis.[3]

2. Clinical Case Presentation

21 days old male child reported to the clinic with the chief complaint of a large ulcerative lesion on the ventral surface of the tongue which was causing pain and bleeding. The baby was crying during breast feeding and refusing

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to take milk or water since 48 hours. His mother gave the history of Natal tooth (present at the time of birth) and eruption of neonatal teeth (on the 16^{th} day of birth). The consultant pediatrician advocated extracting the teeth under the supervision of pedodontist but out of apprehension and as there was no problem arrived at that time she escaped the essential procedure. Since 3 days she observed a big whitish ulcerative lesion in the ventral surface of the tongue of her baby with complete denial of food.

On clinical examination, two teeth like structures in the mandibular anterior region corresponding to 71 (natal tooth) and 81(partially erupted neonatal tooth) were detected. No mobility was observed. There was a white granular necrotic plaque measuring about 8 mm X 5 mm which elicited pain on palpation. It was extended from the anterior border of the tongue to the lingual frenum. Base on clinical finding findings and history the child was diagnosed with RFD. The family history is negative for developmental disorders and congenital syndromes.

Figure 1: Preoperative natal and neonatal (partially erupted)

Figure 2: Preoperative riga fede disesase

2.1. Treatment

Since the lesion was extremely painful and complete denial of food was really serious as it would lead to dehydration and nutritional deficiency which might require hospitalization of the infant. So extraction of the teeth was the ultimate choice to avoid unfavorable situations.

With parental consent, the both teeth were extracted with pediatric tooth forceps followed by the gentle curettage of sockets were carried out after proper application of surface anesthetics and labial infiltration of 2% Lignocaine hydrochloride solution under the medical supervision of consultant pediatrician and pediatric nurse.

Figure 3: Extracted natal tooth (left) and neonatal tooth (right)

The extracted teeth showed a normal morphology, hypomineralised, 3.5x 7 mm (left natal tooth), 2.5x4.5 mm (right neonatal tooth) were in dimension and whitish opaque coronal structure and presence of root formation. The child was prescribed metronidzole suspension 7.5 Ml/kg wt every 6 hrs for 7 days and topical solutions like sucralfate, amlexanox were advocated with topical anesthetic gel (Benzocaine 20% w/w) for symptomatic relief. The suckling reflex of the child was replenished within 5 days and after 2 weeks follow up there was complete cricatrization of RFD.

Figure 4: Post operative- Complete remission of RFD

Figure 5: 4 months after follow up

3. Discussion

It is found that there is an inherited tendency to developing natal teeth with up to 60% of cases reporting a positive family history with an autosomal dominant pattern (meaning about half the children of an affected individual are affected). There are some syndromes where natal/neonatal tooth is thought to be a recognized feature.[4]

Ellis-VanCreveld (Chondroectodermal Dysplasia)
Pachyonychia
Jadassohn-Lewandowsky
Hallermann-Streiff (Oculomandibulodyscephaly with Hypotrichosis)
Rubinstein-Taybi
Steatocystoma Multiplex
Pierre-Robin
Pallister-Hall
Short Rib-Polydactyly (type II)
Sotos syndrome
Wiedemann-Rautenstrauch (Neonatal Progeria)
Cleft Lip and Palate
Ectodermal Dysplasia

Figure 6: Some of the syndromes relevant to natal/neonatal tooth[5]

Management of natal/neonatal teeth is decided by a lot factors including tooth prognosis, development of root, chance of aspiration, degree of mobility, interference in breastfeeding, difficulty in suckling reflex, risk of hemorrhage which should be taken into consideration.

When the conservative measures fail to resolve the lesion and when the child is dehydrated or malnourished, natal/neonatal impedes in breastfeeding, mobility of tooth imposes the risk of aspiration, extraction of those teeth is necessary.[7] The extraction should be delayed up to 10 days or more until and unless the optimum level of viamint K is not present in newborn blood. During the period normal commensal flora is established in intestine which is mandatory to produce 2, 7,9,10 in liver. If the procedure is

Type	Clinical description
Class 1	Shell-shaped crown poorly fixed to alveolus by gingival tissue and absence of a root
Class 2	Solid crown poorly fixed to the alveolus by gingival tissue and little or no root
Class 3	Eruption of the incisal margin of the crown through gingival tissue
Class 4	Oedema of gingival tissue with an unerupted but palpable tooth

Figure 7: Hebling Classification of Natal/ Neonatal tooth (1997)[6]

essential before the period, the need of vitamin K should be consulted with pediatrician if the newborn is medicated with Vitamin injection at the time of birth. Vitamin K (0.5-1mg) is generally administered intramuscularly after birth to prevent the chances of developing hemorrhagic diseases.[8] Once the extraction is carried out, dental papilla cells with Hertwigs epithelium root sheath (HERS) should be enucleated with curette to remove any chance to development of root from the tissues if left in the socket.

RFD starts as an ulcerated lesion with prominent raised borders. With repetitive traumata from irregular edges of newly erupted teeth the lesion leads to an enlarged fibrotic mass which appears like an ulcerative granuloma accompanied with superficial necrosis. Histopathologically, the lesion exhibits granulation tissue with inflammatory infiltration of mast cells, macrophge lymphocytes and eosinophils.[9]

RFD is generally classified as 'Early' and 'Late' lesions (before 6 months of age) depending on the time of occurrence. Early RFD is relevant to neonatal or natal tooth which is characterized by hypoplastic enamel, partially developed root and resultant early mobility. Late lesions are related to primary dentition which may be associated with neurological and developmental disorders like familial dysautonomia, Down syndrome, microcephaly, congenial autonomic dysfunction and cerebral palsy.[10,11]

In our case report, the child presented with both natal and neonatal tooth resulted in RFD. No family history of neurological or developmental anomalies were related. The natal teeth exhibited 1 degree mobility where as partially erupted neonatal tooth showed no mobility. Because of the presence of RFD, patient's refusal to breast milk and denial of feeding was the major concern where the extraction under neonatal care was the only option left. But after 2 weeks follow up the lesion resolved and at 4 months follow up, the gum pad was found completely healthy and imprint of erupting lower central incisors.

4. Conclusion

The definite etiology behind the natal or neonatal teeth is still unknown. The conservative approach like smoothening of the edges or rounding of the sharp edges by composite increments are preferred in those situations where the baby is asymptomatic because invasive procedure of newborns is

always challenging to the dentist and extraction may have some disadvantages like dehydration, loss of space, arch collapse delayed eruption of deciduous tooth. But when the baby is unable to breastfeed or devoid of any nutrition because of RFD, or when the teeth are poorly implanted which poses a risk of aspiration, extraction is the only way out to avoid further complication. So, early diagnosis is mandatory for better prognosis that allows the early resolution of ulcerative lesion and restore the feeding of the newborn.

5. Source of Funding

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6. Conflict of Interest

None.

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