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Natal And Neonatal Teeth - A Case Series With Review Of Literature

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Abstract
The natal and neonatal teeth have been associated for many years with various superstitions. Natal teeth are more common than the neonatal teeth, with the ratio being approximately 3 : 1 and are more in the mandibular incisor area. Natal teeth are present at birth and neonatal teeth are those which erupt within one month post partum. Because of their immature appearance and minimal root, they become hypermobile. They can irritate the baby's tongue during suckling and/or irritate the mother's nipple if the baby is breastfed. They are mostly unstable and mobile and may be aspirated whilst sucking and hence require extractions . This paper presents a concise review of the literature of natal and neonatal teeth and a case series of nine cases of neonatal and natal teeth treated at our institute.

Keywords – *natal and neonatal teeth, Riga Fede disease, congenital, hypermobile, aspiration, extraction*

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I. Introduction

Infants are born with natal teeth whereas the neonatal teeth erupt within the first month of life [1]. These teeth may cause certain difficulties such as pain and ulceration faced by the mother and the child and the child's refusal to feed [27] . Due to the misconceptions and superstitions associated with them , the child may be deprived of parental love. Some consider the child to be monstruous and bearer of bad luck .These natal and neonatal teeth are considered to be bad omen for girls, as per Chinese customs [2].

The natal and neonatal teeth were first documented by Titus Livus in 59 BC. Gaius Plinius Secundus (Elder), in 23 BC , believed that those with natal teeth had a bright future [2].

Terminologies

Previously, the terminologies used for the natal and neonatal teeth were Dentitia praecox, Dens Connatalis, Congenital teeth, fetal teeth, Infancy teeth, Predeciduous teeth, and Precocious dentition [1,4] . The terms of natal and neonatal teeth given by Massler and Savara are the most accepted now [3].

Incidence and Prevalence

Natal teeth are more common than the neonatal teeth, their incidence being 1:2000 to 1:3500 [5,6].

1% to 10% of natal and neonatal teeth are supernumerary whereas more than 90% are prematurely erupted deciduous teeth [8,9].

Classification

Based on their clinical features, Helbing classified the natal /neonatal teeth as follows [1].

1.Natal /neonatal teeth with a shell-shaped crown that is poorly attached to the alveolus by a rim of oral mucosa and absence of a root.

2. Natal/neonatal teeth that present a solid crown poorly attached to the alveolus by oral mucosa, with little or no root at all.

3. Natal or neonatal teeth that have an incisal edge of the crown just erupted through the oral mucosa.
4. Formed by unerupted but palpable teeth with only visible mucosal swelling [11].

Etiology

These teeth occur due to disturbance of biological chronology whose etiology is difficult to pinpoint but may be related to the following factors-

- superficial position of the germ,[12,13]
- infection or malnutrition, [1]
- febrile states,[14]
- eruption accelerated by febrile incidents or hormonal stimulation,[15]
- hereditary transmission of a dominant autosomal gene, [16,17]
- osteoblastic activity inside the germ area related to remodelling phenomenon ,[18]
- hypovitaminosis.[19]

They may be associated with syndromes like Craniofacial Dysostosis,,Hallermann Streiff syndrome, Cleft lip/palate, Congenital glaucoma[20,21].

According to Costa, infection of the follicle affects the gubernaculum dentis persistente, causing phlegmasia and turgidity of follicular tissues. This infection may be caused by traumatic injury eg. introduction of a finger into baby's mouth by the obstetrician during the Moriceau manouver.

Clinical features [23]

1.Small conical dental structure, brown-yellowish colour/whitish opaque colour with an underdeveloped root
2. sometimes seen with by gingival edema, inflammation and some erythematous areas.
3.Immature appearance with enamel hypoplasia [1] , small root attached soft tissue above the alveolar ridge [11] , occasionally covered by mucosa
4.They have exaggerated mobility with risk of being swallowed or aspirated.

Radiological feature [24]

Hollow calcified cap of enamel and dentin without pulp tissue [1] , like a celluloid crown in shape.

Histology[12,18]

- Dysplastic or hypomineralized enamel
- Irregular dentine and osteodentine in the cervical portions and interglobular dentin in the normal regions.
- Incisal edge may lack enamel
- Hertwigs sheath and cementum may be absent
- Increase no of dilated blood vessels in the pulpal tissues
- Root formation - incomplete

Differential diagnosis

- Dental lamina cysts
- Bohn's nodules
- Epstein pearls

Infants are brought to dental clinic due to [1,22]

- Potential risk of swallowing or aspiration of the tooth into the airway and lungs
- Ulceration to the ventral surface of the tongue (Riga Fede disease).
- Child's refusal to feed due to pain.
- Ulceration of the nipple of the mother while breast feeding.
- To alleviate anxiety related to the status of the tooth, whether it is a part of normal dentition or it is a supernumerary tooth.

Treatment [26]

Risk of dislocation resulting in aspiration or traumatic injury to the baby's tongue (Riga Fede disease) and to the mothers breast are some reasons for their extraction.[6]

In Riga fede disease, smoothening of incisal edge was also an option along with placement of round smooth composite resin over the incisal edge.

Precautions for extraction

- Avoid extraction upto 10 days of birth to prevent hemorrhage if vitamin k has not been administered.

- The commensal flora of the intestine needs to establish and thereby produce Vitamin K , which is essential for the production of prothrombin in the liver. Hence the wait for 10 days.

II. Conclusions

- It is rare to find natal and neonatal teeth
- The decision to keep or to extract a natal/neonatal tooth should be evaluated in each case, keeping in mind the risks involved and the parental opinions.

Radiographic examination may be done to confirm whether it is a supernumerary tooth or a tooth of normal dentition.

It is advisable to go for

- Extractions when it is a supernumerary tooth .
- Assess risk of hemorrhage related to hypoprothrombinemia seen commonly in newborns.
- If the teeth are of normal dentition and mature, they may be preserved for space maintainence
- Periodic follow up should be there.
- Parent education for home dental hygiene .

Case series

Nine neonates who were 13-days-to 2 months old, male and female babies, were referred from our hospital's Paediatric medicine Department over a period of 02 years, with loose teeth in the front region of the lower jaw and an inability to suck mother's milk. One infant had an ulcer on the ventral surface of the tongue called Rigafede disease. The delivery of all infants was normal vaginal delivery except for one neonate who was born after caessaerian section. The perinatal history was normal.

On examination, there was presence of natal/ neonatal teeth in the mandibular anterior region, some were covered partially by the gum tissue. There was severe mobility (Grade II) associated with these teeth. A danger of aspiration of these teeth existed. Hence, a decision to extract them immediately was made after the prophylactic administration of vitamin K and after obtaining written fitness from paediatric medicine department for the same.

Extraction was carried out under local anaesthesia after application of a topical anaesthesia in all the cases . Postextraction haemostasis was achieved . Postoperative instructions were given and a recall visit after 1 week was scheduled. The post operative recovery in all the cases was uneventful. The ulcer on the ventral surface of the tongue healed well after extraction of the neonatal tooth in the case with Rigafede Disease.

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Case 1

Fig .1

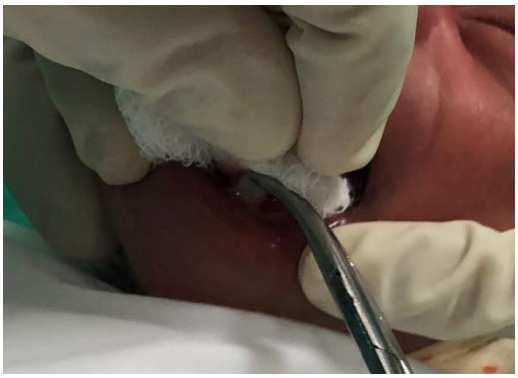

Fig.2

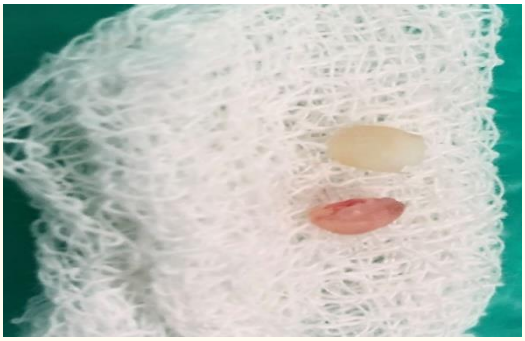

Fig .3

Case 2

Fig .4

Fig .5

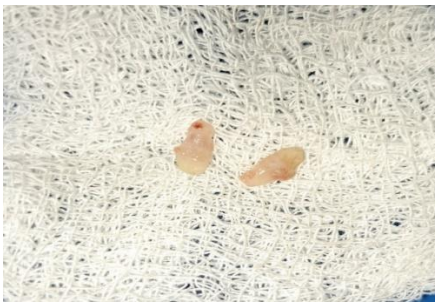

Fig .6

Case 3

Fig .7

Fig .8

Case 4

Fig .9

Fig.10

Case 5

Fig .11

Fig .12

CASE 6 Riga fede disease

Fig 13

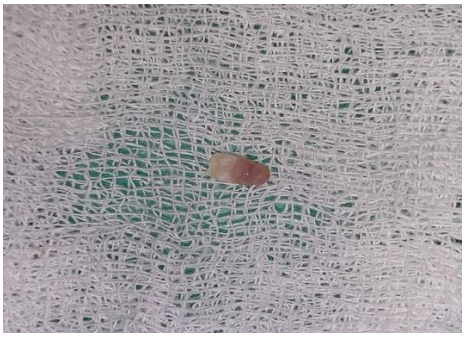

Fig 14

Case 7

Fig 15

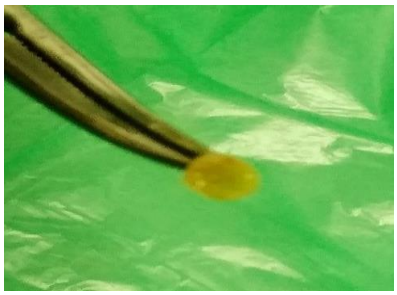

Fig 16
Natal tooth hollow shell shaped crown

Case 8

Fig 17

Fig 18

Case 9

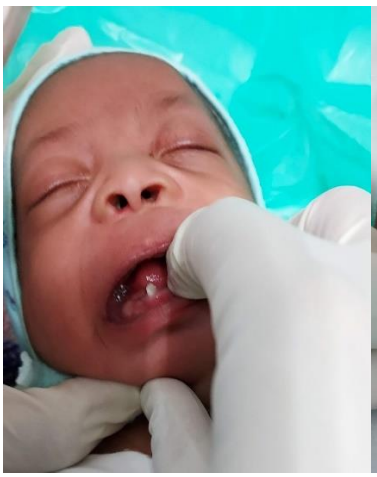

Fig 19

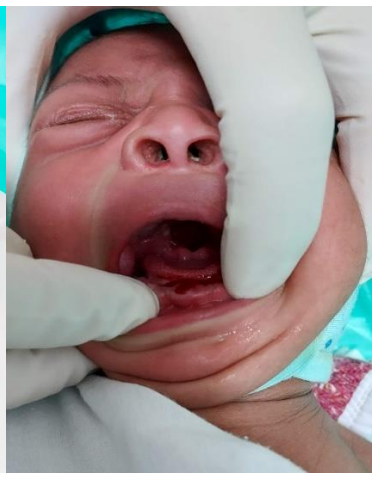

Fig 20

Fig 21