Case Report: Natal tooth in a four-day old newborn [version 1; peer review: awaiting peer review]

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Abstract

Background: A natal tooth is a tooth that is present at the time of birth. Eruption of teeth in infants is a rare phenomenon. Though rare, natal and neonatal tooth must be looked upon with great importance because they may lead to many complications.

Case report: We present a case of a four-day old baby presenting with a mandibular natal tooth, which was successfully extracted without any complications. The mother had presented with a single umbilical artery during her pregnancy, which might be the proposed etiology of the natal tooth as the exact etiology is unknown.

Conclusion: The exact etiology of natal tooth is unknown but there are a lot of factors that might be a cause. For the majority of cases, extraction is the mainstay of therapy as the risk associated is higher and can be life-threatening in most cases.

Keywords
natal tooth, congenital teeth, predecidious teeth, precocious dentition, extraction, case report
Introduction
Eruption of teeth in infants is a rare phenomenon. When present at birth they are known as natal teeth and if present during the first 30 days are known as neonatal teeth. After six months, the natural eruption of teeth occurs in infants.

The other terms used for natal and neonatal teeth from the literature are ‘congenital teeth’, ‘dentition praecox’, ‘fetal teeth’. Also, terms previously used were ‘dens connatalis’, ‘predeciduous teeth’, ‘precocious dentition’.

The incidence of natal and neonatal teeth is 1:716 to 1:30,000 as reported by Zhu and King, and 1:2000 to 1:3800 as reported by Chow. The general ratio for natal:neonatal teeth is 3:11. In most cases, these teeth are present as lower primary incisors. A study by Bodenhoff reported 85% of these are mandibular incisors; 11% are maxillary incisors; 3% are mandibular canines and 1% are maxillary canines or molars.

The clinical categories of these teeth include:

i) A shell-like crown structure that is loosely attached to the alveolus by gingival tissue with no root.

ii) A solid crown attached loosely to the alveolus by gingival tissue, without or little root.

iii) Eruption of the incisal margin of the crown through gingival tissue.

iv) Edema of the gingival tissue with an un-erupted but palpable tooth.

The causative factors include infection, febrile states, trauma, malnutrition, superficial position of the tooth germ, hormonal stimulation, and maternal exposure to environmental toxins. The environmental predisposing factors include polychlorinated biphenyls (PCB); polychlorinated dibenzodioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs), which are usually believed to cross the placenta and the concentrations of these are found in adipose tissues of newborns, which are then correlated with those present in the mother’s milk.

The complications might include discomfort during suckling, laceration of the mother’s breast, sublingual ulceration (Riga-Fede disease) with feeding refusal, ulceration on the ventral surface of the tongue caused by the tooth’s sharp incisal edge and swallowing or aspiration of teeth.

If extraction is considered as a treatment plan, the clinician should assess the risk of hemorrhage and wellbeing of the baby especially in the case of supernumerary teeth. For mature teeth of normal dentition, it is crucial to take measures to preserve the tooth in healthy condition in the baby’s mouth using appropriate clinical resources.

Case report
A four-day old male baby born through lower segment cesarean section (LSCS) weighing 2.89 kilograms presented with a gum-like appearance at birth on the lower jaw. On noticing the projection, he was brought to medical attention on day four after birth. Eruption of a tooth started from the gum like projection from day eight and the tooth fully erupted a month after his birth. His maternal records showed a single umbilical artery (SUA) in targeted imaging for fetal anomalies (TIFFA). He was otherwise an active baby with adequate feeds. The diagnosis made by the pediatric team was natal tooth.

His birth records showed a bleeding time of two minutes 45 seconds and a clotting time of four minutes. In view of a single umbilical artery, the baby was referred for ultrasonography (USG) abdomen and pelvis which was normal. He was vaccinated as per immunization protocols.

The gum-like appearance further protruded and presented as a tooth over time (Figure 1).

The baby was then referred for a dental consultation. The dentist made a note of the complaints as hard tissue in the lower front teeth region and natal tooth in the lower gum pad in the anterior region (Figure 1). The plan of treatment was the extraction of the tooth (Figure 2). Post extraction was uneventful without any complications. The parents were counseled for post-operative instructions and advised to maintain oral hygiene and review after one week.
The timeline of important events is as follows:

January 2, 2022: The child was born.

January 6, 2022: Gum like projection on the anterior region of lower jaw.


February 1, 2022: Dental consultation and extraction of tooth.

**Discussion**

Natal or neonatal teeth are conical or yellowish with hypoplastic enamel and dentin with poor or absent development of the root. In most cases, these teeth are mobile.\(^2,14,15\) The predisposing factors include dominant autosomal traits, endocrine disturbances (pituitary, thyroid, gonads), excessive or increased resorption of overlying bone, poor mental health, and congenital syphilis.\(^16\) A study by Gladen et al. reported 13 out of 128 infants having natal or neonatal teeth and showed that the mother was heavily exposed to polychlorinated biphenyls and benzofurans in Taiwan.\(^11\) On the other side, a study by Alaluusua et al. showed no association between milk levels of polychlorinated biphenyls and benzofurans with the occurrence of a natal tooth.\(^12\)

![Figure 1](image1.png)

**Figure 1.** A: A gum like projection on the anterior region of the lower jaw (day 4) B: Beginning of tooth eruption from the projection (day 9); C: Fully erupted natal tooth (day 30); D: Post-extraction (day 30).
No intervention is necessary if the tooth doesn’t interfere with breastfeeding and is asymptomatic. Extraction is recommended if the tooth is supernumerary and consultation with a pediatrician is strongly recommended.10

The treatment options include:

- Maintenance of tooth in the mouth, unless this would cause injury to the baby.
- When the tooth is not mobile it should be left unless it interferes with feeding.
- When highly mobile, the risk of aspiration is high. So, extraction might be the mainstay for treatment.7,10

The factors that need to be considered include implantation and degrees of mobility, inconveniences during suckling, interference with breastfeeding and possibility of traumatic injury.17

A study by Allwright reported extraction of 25 natal teeth with no complications of hemorrhage due to the risk of hypotherminalemia.18 All the extraction procedures were done in babies who were older than 20 days and it is recommended that the child is at least 10 days old for safer outcomes.18,19 If it is not possible to wait, then evaluation of the need and administration of vitamin K should be performed to prevent hemorrhage. The advisable dose is 0.5–1 mg, which is given intramuscularly.20

Most importantly, the decision of retaining or extracting the tooth should be carefully evaluated for three factors: scientific knowledge, clinical common sense, and parenteral concern. It is very important to give complete information to the parents before letting them decide.

**Conclusion**

Natal tooth is presented as a rare indication in infants. The exact etiology is unknown but there are a lot of factors that might be a cause. For the majority of cases, extraction is the mainstay of therapy as the associated risk of retaining the
tooth is higher and can be life-threatening in most cases. A study on the accelerated or premature pattern of dental development will provide more insights.

Data availability
All the data underlying the results are available as part of the article and no additional source data are required.

Consent
Written informed consent for publication of the clinical details and clinical images was obtained from the parents of the patient.

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References

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