



(CASE REPORT)



Clinical insights into natal teeth: A case report in a 21-day-old infant with an integrated literature review

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GSC Biological and Pharmaceutical Sciences, 2025, 32(01), 073-078

Publication history: Received on 19 May 2025; revised on 26 June 2025; accepted on 30 June 2025

Article DOI: <https://doi.org/10.30574/gscbps.2025.32.1.0258>

Abstract

Natal teeth are teeth present in the oral cavity at birth and are most commonly found in the lower anterior region. While often benign, they can cause complications such as feeding difficulties, trauma to the infant's tongue (Riga-Fede disease), and discomfort for the nursing mother. This case report describes the clinical management of a 15-day-old male infant who presented with natal teeth in the mandibular anterior region. After evaluating systemic stability and allowing physiological adaptation, extraction was planned and performed on the 20th day. Precise local anesthetic dosing and post-operative care were tailored to the patient's age and weight. The review component of this article explores the etiology, classification, syndromic and genetic associations, and treatment modalities for natal and neonatal teeth, emphasizing the significance of early diagnosis and timely intervention by pediatric dental professionals.

Keywords: Natal Tooth; Infant Oral Health; Riga-Fede Disease; Pediatric Dentistry; Mandibular Anterior Region; Local Anesthesia in Infants; Syndromic Associations; Early Dental Intervention

1. Introduction

Natal teeth are teeth present in the oral cavity at the time of birth, while neonatal teeth erupt within the first 30 days postnatally. Although rare, natal teeth are more frequently observed than neonatal teeth, with an estimated prevalence ranging from 1 in 2,000 to 1 in 3,500 live births.^{1,2} The mandibular central incisors are most commonly affected.³ These teeth are often of primary origin rather than supernumerary and may exhibit incomplete root formation or mobility due to immature attachment.

The clinical presence of natal teeth may lead to a variety of complications, such as trauma to the infant's tongue (Riga-Fede disease), pain, feeding difficulties, and ulceration, potentially necessitating early extraction.⁴ In some cases, mobility of the natal tooth increases the risk of aspiration, prompting the need for immediate intervention. The American Academy of Pediatric Dentistry recommends thorough evaluation and appropriate management, including extraction when risk outweighs benefit.⁵

Etiologically, natal teeth have been linked to hereditary factors, endocrine disturbances, nutritional deficiencies, and superficial position of the dental follicle.⁶ Furthermore, they have been reported in association with certain syndromes such as Ellis-van Creveld syndrome, Hallermann-Streiff syndrome, and Soto's syndrome.⁷ A genetic predisposition, particularly autosomal dominant inheritance, is also considered significant in many familial cases.⁸

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Management of natal teeth must be carried out with specialized care due to the age of the patient. Pediatric dentists are uniquely qualified to handle such delicate cases, ensuring accurate dose calculation for local anesthesia, age-appropriate medication, and careful monitoring of post-operative healing. Early consultation with pediatric dental specialists enhances safety and prompt outcomes in neonatal and infant oral care.^{9,10}

2. Case report

A 15-day-old male infant was brought by his parents to the Department of Pediatric and Preventive Dentistry at Kothiwal Dental College and Research Centre, Moradabad, with a chief complaint of a tooth-like structure present in the lower anterior region since birth. The parents reported difficulty during breastfeeding due to the sharp structure, and were concerned about its mobility and risk of aspiration.

On clinical examination, a single natal tooth was present in the region of the mandibular central incisors. The tooth exhibited Grade II mobility and was interfering with feeding. The gingival pads appeared healthy, and no other intraoral or extraoral abnormalities were present. The child showed no syndromic features or systemic anomalies. (Fig.1)



Figure 1 Pre-operative picture of natal tooth

Due to the high mobility of the tooth and interruption during feeding, it was decided to extract the tooth when the infant turned 21 days old, allowing for better systemic adaptation and minimizing procedural risk. Prior to extraction, pre-operative instructions were given to the parents, including a recommendation to feed the infant 30–45 minutes before the procedure. This ensures the child is calm, well-fed, and less irritable during treatment. Feeding also helps prevent postoperative hypoglycemia and ensures that the baby does not become hungry immediately after the extraction when feeding may be slightly uncomfortable.

At 21 days of age, the infant's weight was approximately 3 kg. After obtaining informed consent, the natal tooth was planned for extraction under local anesthesia. A 2% lidocaine solution with 1:200,000 epinephrine was used. The maximum recommended dose of lidocaine in infants is 4.4 mg/kg, amounting to 13.2 mg for a 3 kg child, which corresponds to a maximum volume of approximately 0.66 mL of 2% lidocaine. A precise 0.5 mL was administered using an insulin syringe.

The extraction was performed successfully and atraumatically. Postoperative instructions were given, and for analgesia, paracetamol syrup (125 mg/5 mL) was prescribed. The recommended dosage in infants is 15 mg/kg, equal to 45 mg per dose for a 3 kg child. This corresponds to 1.8 mL of syrup, or approximately 36 drops, assuming 20 drops per mL. Parents were advised to give 36 drops of paracetamol syrup every 6–8 hours as needed, not exceeding 4 doses per day. (Fig.2) (Fig.3)



Figure 2 Extracted natal tooth



Figure 3 Intraoral picture after extraction

Follow-ups at 5 and 15 days postoperatively revealed uneventful healing, no signs of infection, and a complete resolution of parental concerns. The baby resumed normal feeding behavior, and there were no complications noted.

3. Discussion and Review

Natal and neonatal teeth, although uncommon, are significant clinical findings in neonates and require careful evaluation due to their potential to cause complications. Natal teeth are present at birth, while neonatal teeth erupt within the first 30 days of life. The overall incidence is approximately 1:2,000 to 1:6,000 live births, with natal teeth being more common than neonatal teeth.^{11,12} The majority of these teeth appear in the mandibular anterior region and are often part of the normal primary dentition, although in a minority of cases, they may be supernumerary.¹³

Their etiology remains largely unclear, though several hypotheses have been proposed. These include superficial positioning of the developing tooth germ, hereditary factors (with some evidence suggesting autosomal dominant inheritance), endocrine disturbances, infection, malnutrition, trauma, and maternal febrile illnesses during pregnancy.^{14,15} Additionally, genetic mutations in keratin genes have been implicated in isolated syndromic cases.¹⁶

Natal and neonatal teeth may present in a variety of clinical forms ranging from well-formed, fully erupted teeth to small, conical, hypoplastic structures with or without root formation. Teeth may be asymptomatic, but complications are common when the teeth are mobile, poorly formed, or have sharp incisal edges. A particularly notable complication is Riga-Fede disease, a chronic ulcerative condition resulting from trauma to the ventral surface of the tongue due to repeated rubbing against the sharp edges of these teeth during suckling. This condition may impair feeding and cause pain, weight loss, and parental anxiety.¹⁷ Management of Riga-Fede disease depends on the severity and includes conservative smoothing of the sharp edges, application of topical corticosteroids or anesthetics, fabrication of protective feeding plates, or extraction if the lesion is persistent or the tooth is mobile.¹⁸

A key differential diagnosis is distinguishing natal/neonatal teeth from supernumerary teeth, which are usually conical, not aligned with the dental arch, and not part of the normal sequence. Radiographic evaluation, where feasible, can help clarify this distinction. Preservation is prioritized if the tooth belongs to the primary dentition and is not interfering with feeding or soft tissue health.¹⁹

The approach to management is individualized and depends on mobility, risk of aspiration, presence of soft tissue trauma, and interference with feeding. If the tooth is stable and non-traumatic, no treatment is necessary aside from regular observation and parental counseling. If the tooth is sharp but stable, grinding or polishing is recommended to reduce trauma risk. For Grade II or III mobile teeth, especially those posing a risk of aspiration, extraction is indicated.²⁰

Importantly, timing of extraction is critical due to the immature hepatic function in neonates. The neonatal liver has not yet developed full enzymatic activity, which results in deficient synthesis of vitamin K-dependent clotting factors (factors II, VII, IX, and X). This places the neonate at risk for VKDB (Vitamin K Deficiency Bleeding). Extraction is generally deferred until after 10 days of life, or at least until prophylactic intramuscular vitamin K (1 mg) has been administered. Early extraction without vitamin K prophylaxis can result in catastrophic bleeding events.^{21,22}

Abrams et al. (1979) reported a case of life-threatening hemorrhage following natal tooth extraction in a neonate who had not received Vitamin K prophylaxis. The incident highlighted the critical need for intramuscular administration of Vitamin K prior to any surgical intervention in neonates. Similarly, Delescluse et al. (2003) emphasized the necessity of Vitamin K administration before extraction of natal or neonatal teeth, especially in settings where prophylactic Vitamin K administration at birth may be missed or delayed. Their findings support a preoperative Vitamin K dose to prevent unexpected bleeding and ensure the safety of the procedure. These studies collectively reinforce the recommendation that Vitamin K prophylaxis is essential to minimize the risk of hemorrhagic complications during neonatal dental extractions.^{27,28}

In cases where the tooth is highly mobile (Grade III) and the patient is younger than 10 days old, vitamin K administration prior to the procedure is mandatory. The risk-benefit ratio must be carefully assessed, and extraction should only be done if the potential for aspiration outweighs the bleeding risk. AAPD guidelines recommend avoiding invasive procedures in neonates unless absolutely necessary and call for pre-procedural assessment of vitamin K status and hepatic maturity.²³

Conservative management has been shown to be effective in many cases. A study by Leung AK et al. found that only 9–15% of natal and neonatal teeth require extraction, while more than 80% can be managed with monitoring or minor adjustment.²⁴ Kates et al. also reported that 83% of teeth observed were mandibular central incisors and part of the primary dentition, further emphasizing the importance of a non-aggressive approach.²⁵

Syndromes commonly associated with natal and neonatal teeth include Ellis-van Creveld syndrome, Hallermann-Streiff syndrome, Pachyonychia congenita, Soto syndrome, Steatocystoma multiplex, Cleidocranial dysplasia, and Pierre-Robin sequence.²⁶ Thus, the presence of these teeth warrants not just local oral assessment but a systemic evaluation to rule out underlying syndromic conditions.

In summary, natal and neonatal teeth, although rare, are of clinical significance due to their potential to interfere with feeding, cause mucosal trauma, and pose aspiration risks. Management should be conservative where possible, with extraction reserved for cases with pathological mobility or trauma. Accurate diagnosis, awareness of systemic implications, understanding of neonatal hepatic immaturity, and cautious timing of procedures guided by vitamin K administration protocols are crucial to avoid complications and ensure favorable outcomes.

4. Conclusion

Natal and neonatal teeth, though uncommon, require timely diagnosis and appropriate management to prevent complications like feeding issues, soft tissue trauma, and aspiration. Pediatric dentists play a vital role in evaluating the mobility and symptoms to decide between monitoring or extraction. Proper precautions, including pre- and post-operative care and awareness of systemic risks, ensure safe and effective treatment in such delicate cases.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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