Reporte de Casos
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Unusual yellow lesion on gingival mucosa. A rare oral pathology in a newborn. Case report.

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Abstract: Introduction: Natal teeth (NT) are part of the rare anomalies of dental development with relevant clinical implications in the neonatal period. Case report: We present the case of a 15-day-old newborn with two DN in the anterior inferior region, whose removal revealed a bright yellow gingival lesion. Although no complementary diagnostic studies were performed, a possible etiology was suggested to be a manifestation of physiological neonatal jaundice. Conclusion: This unusual clinical finding, not described in the literature, highlights the need to consider the interaction between systemic conditions and oral manifestations.

Key words: Natal teeth (NT), Jaundice, Neonatal, Bilirubin.

Lesión amarilla inusual en mucosa gingival. Una patología bucal poco frecuente en un recién nacido. Reporte de un caso

Resumen: Introducción: Los dientes natales (DN) forman parte de las anomalías poco frecuentes del desarrollo dentario con implicaciones clínicas relevantes en el periodo neonatal. Reporte: Se presenta el caso de una recién nacida de 15 días con dos DN en la región de rodete anteroinferior, cuya remoción evidenció una lesión gingival de coloración amarillo brillante e intenso. Aunque no se realizaron estudios diagnósticos complementarios, se planteó como posible etiología una manifestación de ictericia fisiológica neonatal. Conclusión: Este hallazgo clínico, inusual y no descrito en la literatura, resalta la necesidad de considerar la interacción entre condiciones sistémicas y manifestaciones orales.

Palabras clave: Dientes Natales (DN), Ictericia Neonatal, Bilirrubina.

Lesão amarela incomum na mucosa gengival. Uma patologia bucal pouco frequente em recém-nascidos. Relato de um caso

Resumo: Introdução: Os dentes natais (DN) fazem parte das anomalias pouco frequentes do desenvolvimento dentário com implicações clínicas relevantes no período neonatal. Relato de caso: Apresenta-se o caso de uma recém-nascida de 15 dias com dois DN na região do rebordo anterior inferior, cuja remoção evidenciou uma lesão gengival de coloração amarela brilhante e intensa. Embora não tenham sido realizados estudos diagnósticos complementares, foi considerada como possível etiologia uma manifestação de icterícia fisiológica neonatal. Conclusão: Este achado clínico, incomum e não descrito na literatura, destaca a necessidade de considerar a interação entre condições sistêmicas e manifestações orais.

Palavras-chave: Dentes Natais (DN), Icterícia Neonatal, Bilirrubina.

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Introduction

Jaundice is a clinical concept referring to the yellowing of the skin and mucous membranes caused by the deposition of bilirubin in the bloodstream, whereas hyperbilirubinemia is a biochemical concept defined by plasma bilirubin concentrations above normal values[1]. This process originates from the physiological breakdown of hemoglobin during the normal turnover of red blood cells. Clinically, jaundice becomes evident in newborn (NB) when bilirubin levels exceed 5 mg/dL[1].

During the first week of life, most full-term newborns develop unconjugated hyperbilirubinemia, which manifests as transient jaundice and usually resolves spontaneously within one or two weeks[2]. This condition, known as physiological jaundice or benign neonatal hyperbilirubinemia, occurs most frequently in preterm newborns[2]. Its etiopathogenesis is related to hepatic immaturity, elevated bilirubin production secondary to the destruction of fetal erythrocytes, and limited hepatic excretory capacity[3]. It generally appears between the second and fifth day of life, reaches its peak between the fifth and seventh day, and resolves between 10 and 15 days[4].

Bilirubin can be deposited not only in the skin but also in the mucous membranes, including the oral cavity, particularly when there is increased vascular permeability[3]. In cases of trauma or local inflammation, this phenomenon may be accentuated, facilitating the extravasation of bilirubin pigments into the soft tissues[4].

Regarding neonatal dental abnormalities, Massler and Savara described in 1950 one of the most widely used classifications for prematurely erupted teeth, distinguishing between natal teeth present at birth and neonatal teeth, those that erupt during the first 30 days of life[5]. Meanwhile, other authors such as Spouge and Feasby proposed a classification based on the degree of tooth maturity, differentiating between mature teeth which develop normally and have a better prognosis and immature teeth which develop poorly and have a lower likelihood of retention in the oral cavity[6].

The development of human dentition and the normal eruption chronology have been extensively described, allowing these entities to be identified as alterations in dental development[7]. From a clinical standpoint, the oral cavity of the newborn presents specific characteristics that influence the manifestation of these alterations[8].

Morphologically, natal and neonatal teeth are typically small in size, conical in shape, and opaque white or yellow-brown in color, with poorly developed roots[9]. These characteristics have been confirmed in multiple clinical and literature reviews[10]. Histological studies have demonstrated structural alterations in the enamel and dentin[11].

The clinical management of these teeth depends both on the characteristics of the dental organ and the patient's general condition. The decision to preserve or extract them should be based on a multifactorial evaluation[12]. The

importance of individualizing treatment and maintaining close monitoring of the newborn is emphasized[14]. In selected cases, early diagnosis and timely management can prevent major complications[15].

Among the most common complications is Riga-Fede traumatic ulcer, associated with constant friction between the tooth and the tongue or soft tissues[16]. This condition has been documented as a significant complication that can interfere with the newborn's feeding and well-being[17].

The etiology of dental nodules has not been fully established. Factors such as the superficial position of the dental germ, infections, febrile episodes, trauma, malnutrition, hormonal stimulation, and maternal exposure to environmental toxins have been proposed[18]. Recent studies have also suggested possible genetic and syndromic associations in some cases[19 20].

The purpose of this case report is to present the course of a suddenly appearing yellow lesion located on the lower lip, secondary to the removal of a DN in a newborn, with a one-year follow-up.

Clinical Case

A 15-day-old female patient was seen in a private practice following a normal, full-term delivery with no history of perinatal pathology. After taking a thorough medical history, the mother mentioned that the baby was born with two lower natal incisors (DN). She reported that at 10 days of age, the right natal central incisor was removed by the infant's own hand, causing bleeding and revealing a yellowish lesion. Five days after the event, the mother took the child to a pediatric dentist to seek care for the discoloration observed in the gum. During the initial evaluation, the possibility was considered that the yellow discoloration observed on the gingival margin, following the loss of the natal tooth, might correspond to a foreign body or retained food material. To rule out this diagnostic possibility, a clinical examination protocol was performed using techniques recommended for assessing soft tissues in newborns. A direct inspection was conducted under frontal lighting, removing milk residue and evaluating the tissue surface. The lesion had a clearly sessile base, approximately 1.5 cm in size, with no defined edges or adherent elements, and a smooth, homogeneous surface that did not correspond to the irregular appearance typically seen in foreign bodies in neonates. Subsequently, through gentle palpation of the gingival ridge, it was confirmed that the lesion exhibited a fluctuating consistency and not the firmness typical of an exogenous material. The mother reports that the current condition does not interfere with the baby's feeding. (Figure 1).

Based on the detailed exploratory analysis, the presence of a foreign body or food as the cause of the color change was ruled out; therefore, it was decided, in consultation with the parents, to avoid an invasive procedure (biopsy or excision) that would involve further bleeding and to pursue only a conservative approach, monitoring

Figure 1. *Lower intraoral view. A lesion is observed on the right side of the midline in the gingival rim of a newborn; the homogeneous and intense yellow discoloration of the lesion is evident.*

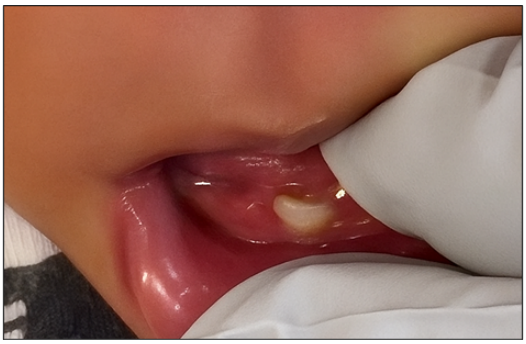

Figure 3. *Clinical appearance after 15 days. Marked improvement is observed, with minimal swelling and the same coloration as the adjacent mucosa.*

the lesion's progression. Three days later, the lesion regressed, as its size decreased and the intense yellowish discoloration disappeared. (Figure 2). Fifteen days later, the rim appeared normal, with minimal inflammation and a color similar to that of the adjacent mucosa (Figure 3). At the final one-year follow-up, the mucosal conditions were stable, with no evidence of recurrence or hyperplasia in subsequent examinations. It is worth noting that a primary tooth is missing in the area where the natal tooth was lost, which may be related to the fact that the prematurely lost tooth was part of the dental formula, since no primary tooth subsequently erupted. (Figure 4).

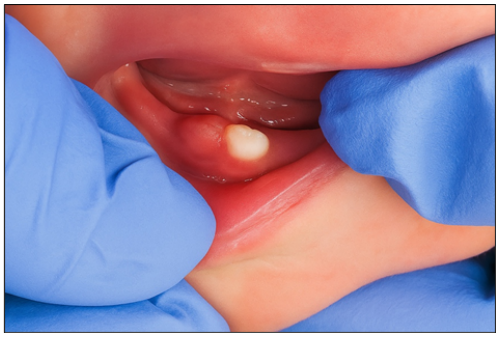

Figure 2. *Clinical appearance after 3 days. A clear improvement is evident, characterized by the disappearance of the intense yellow discoloration and a slight reduction in the swelling of the gingival rim.*

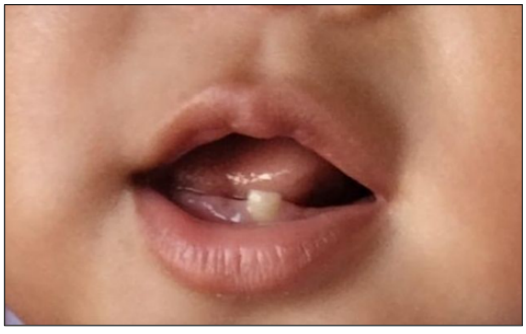

Figure 4. *Clinical follow-up after 1 year. The mucosa is completely stable and similar in color to the adjacent mucosa. Additionally, there is no primary tooth that might have erupted later in the area where the natal tooth was lost.*

Discussion

DNs constitute a low-prevalence anomaly of dental development, observed in approximately 1 in every 2,000 to 3,000 births.[20] They are present at birth and, in most cases, involve the lower central incisors. Their presence can lead to local complications such as traumatic ulcers, interference with breastfeeding, or a risk of aspiration if they exhibit marked mobility.[21] Regarding neonatal jaundice, rare oral manifestations associated with hyperbilirubinemia have been described, including mucosal pigmentation[21]. The metabolism of bilirubin in neonatal tissues explains its potential for extravascular deposition under certain conditions[22]. Likewise, color changes in the oral cavity of neonates with jaundice have been reported[23]. Clinical studies have described patterns of yellow or greenish pigmentation in neonatal tissues associated with hyperbilirubinemia[24]. Histological analyses have confirmed bilirubin's ability to deposit in oral connective tissues[25]. This phenomenon may be exacerbated by local trauma, which increases vascular permeability and facilitates pigment extravasation[26].

There are case series reports describing transient oral lesions in newborns with jaundice, which resolve favorably with the resolution of the systemic condition[27]. Dental discoloration associated with neonatal hyperbilirubinemia has also been documented[28]. The differential diagnosis of neonatal oral lesions should include congenital gingival cysts and other benign conditions specific to newborns[29], as well as inflammatory, infectious, or traumatic lesions[30].

This case report describes the clinical course of a suddenly appearing, yellow-colored lesion located on the lower gingival ridge, secondary to the removal of a natal tooth in a 15-day-old infant. Following extraction of the tooth, a bright yellow, homogeneous, and well-defined lesion was observed. No additional tests were performed; however, the clinical course was decisive in ruling out the presence of a foreign body, as the lesion showed a rapid decrease in size and progressive fading of pigmentation over a three-day period, with complete resolution by approximately fifteen days[31-33].

Table 1. *Comparison of oral lesions with clinical characteristics similar to the presented case. Key differences in etiology, location, and coloration are included to support the differential diagnosis.*

Similar Lesion	Description	Difference from the Case	Reference
Yellow spots on the oral mucosa	Associated with jaundice; with phototherapy.	Similar resolution, resolve but not post-trauma gingival.	[21]
Green pigmentation in teeth	Bilirubin deposition in enamel due to hyperbilirubinemia.	Affects hard tissues, not the gingiva; green color vs. yellow.	[27][31]
Gingival cysts in newborns	Yellowish swelling/white on the gum; benign and transient.	Congenital, not secondary to trauma: without intense color.	[32][33]

Once the presence of exogenous material was ruled out, an analysis of possible endogenous causes was conducted.[33] The primary diagnostic hypothesis proposed was: a transient bilirubin deposit secondary to physiological neonatal jaundice, supported by various positive clinical findings (Table 2).

Neonatal physiological jaundice is a common condition affecting between 60% and 80% of newborns; it appears between days 2 and 5 of life, peaks around days 5 to 7, and typically resolves between days 10 and 15. In this case, the 15-day-old patient was exactly within the typical resolution period, making the transient presence of bilirubin-associated pigmentation clinically plausible.[33]

We concur with the pediatric literature, which states that bilirubin can be deposited not only in the skin but also in the mucous membranes, including the oral cavity, especially when there is increased vascular permeability. This phenomenon is facilitated by local trauma caused by the extraction or loss of the natal tooth, which generates microhemorrhages and facilitates the diffusion of bilirubin into the soft tissues. The bright yellow, homogeneous, and well-defined discoloration observed clinically corresponds to the characteristics described for bilirubin deposition in mucous membranes, clearly differing from signs typical of infection, suppuration, or necrosis. Therefore, even without additional studies, the correlation between the timing of jaundice, the history of trauma, and the clinical appearance of the lesion supports a reasonable and pathophysiologically coherent diagnostic hypothesis.

Table 2. *All-positive clinical criteria for transient bilirubin deposition secondary to physiological neonatal jaundice during the initial evaluation of an unusual yellow lesion on the gingival ridge.*

Clinical Criteria for Transient Bilirubin Deposition Secondary to Physiological Neonatal Jaundice	Indicates Positive/ Negative
Timing consistent with the resolution phase of physiological jaundice.	Positive
History of local trauma due to loss of the natal tooth.	Positive
Bright, uniform yellow coloration, with no signs of infection.	Positive
Spontaneous resolution, consistent with the physiological decrease in bilirubin.	Positive

Conclusion

This case highlights the importance of clinical diagnosis, intraoral examination, and the need for multidisciplinary management. It underscores the importance of integrating the dental evaluation with the newborn's systemic status, which in certain pathological scenarios must be monitored and treated according to each patient's specific condition. Furthermore, a reasoned clinical hypothesis is proposed, consistent with neonatal physiology and its close interrelation with the oral cavity.

Conflict of Interest

The authors declare that they have no affiliation with any organization or financial or non-financial entity of interest. The parents previously signed the informed consent form for the publication and dissemination of the case and agree to its publication.

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