Novel management of Riga-Fede disease associated with early infancy tooth in 4-month-old infant

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Abstract

Teeth that develop prematurely in the oral cavity are known as early infancy teeth. Riga-Fede disease (RFD) is characterized by sores on the ventral area of the tongue, lip, and mother’s breast caused by these teeth. The management is determined by the tooth’s mobility and the risk of aspiration or swallowing; if it is a supernumerary or ordinary main tooth; whether it is interfering with breastfeeding; breast and oral soft tissue damage; and the general health of the child. The clinical diagnosis of RFD was made after a 4-month-old male newborn was identified with one early infancy tooth and an ulcerated lesion on the ventral side of the tongue. The intervention consisted of preserving the early infancy tooth that showed no signs of increased mobility, adding a modest increment of composite resin cement to its incisal edge, and applying 0.12% chlorhexidine topically. The patient was monitored on a daily basis, and after 15 days, the wound was completely healed. The recommended intervention was effective, and the patient is still being followed up on after 6 months with no recurrence of the lesion.

Keywords: Composite resin, early infancy teeth, Riga Fede disease

Introduction

The first primary tooth erupts at around the age of 6 months in the oral cavity. The existence of teeth at birth or roughly a month after delivery is a rare condition. Teeth erupting after the 30-day natal period, i.e. erupting within 1–3.5 months are also referred to as early childhood teeth.[1] The Riga-Fede disorder is an uncommon juvenile disease in which repetitive trauma results in chronic lingual ulceration. It was first reported by Antonio Riga in 1881, with later histological studies by Francesco Fede in 1890. Other authors have referred to this lesion as “Riga’s disease,” “sublingual growth in infants,” “sublingual ulcer,” “sublingual granuloma,” “reparative lesion of the tongue,” “neonatal sublingual traumatic ulceration,” and “traumatic atrophic glossitis.”[2] This case report gives a review of Riga Fede disease (RFD) with the proper case discussion and its management.

Case History

A 4-month-old infant was referred to the Department of Pediatric and Preventive Dentistry, with a complaint of ulceration on the ventral surface of the tongue. The mother reported that her infant was in pain when suckling and refused to feed. Oral examination revealed a tooth in the mandibular anterior area that was immobile. There was no significant past systemic, family, or any drug history recorded. The crown had a sharp incisal edge which impinged the ventral surface of the tongue during the suckling procedure. The tongue’s ventral surface possesses 2 mm × 4 mm ulceration [Figure 1]. The area elicited a painful reaction from the patient when palpated. There were no apparent lesions seen in the rest of the intraoral mucosa. On examination, one early infancy teeth were observed, probably primary incisor which was having well-formed crowns. The diagnosis of “RFD” was made based on clinical observations.

Rather than having the teeth extracted, conservative management was preferred for preserving the primary tooth. The sharp edge of the early infancy tooth using composite resin was done. The tooth was dried using cotton roll isolation and the incisal surface of the tooth was etched using 37% phosphoric acid for 30 s [Figure 2]. Following this, the tooth was rinsed and air-dried, bonding agent was applied using cotton applicator tip and cured using UV light for 20 s [Figure 3]. Finally, A2 shade composite resin (GC Solare X) was placed over the sharp incisal edge and cured using same curing light [Figure 4]. Finishing and polishing were done using composite polishing kit (Shofu Private Limited). Parents were also advised the home application of topical chlorhexidine gluconate gel (Hexigel, ICPA Health Products Ltd) on the ventral surface of tongue for healing of ulcer. Smoothening of the incisal edge was done which led to
healing of the ulcer within 15 days [Figure 5] following which the mother informed on later appointments that the infant was feeding normally without any sign of pain and ulceration. On 6 month follow-up, the teeth present were 72, 71 (early infancy tooth treated with composite resin), 81, and patient had no signs of pain and ulceration [Figure 6].

Discussion

Early childhood tooth ulceration on the ventral surface of the tongue caused by the sharp incisal edge of the tooth is a major complication. Ulcerative lesions are common in children and are typically caused by accidental chewing, hard food, appliances, or dental or other trauma.[3] Constant trauma can produce sufficient ulceration to interfere with proper suckling and feeding and put nutritional deficiencies at risk for the neonates.[4] In order to undertake a good evaluation, diagnosis, and therapy, practitioners must be able to identify the damage and the causative agent of Riga-Fede illness. Improper diagnosis and care cannot be done correctly, and the baby’s dehydration and poor consumption of nutrients can increase the risk for on-site infection.[5] In this case, early infancy tooth induced an ulceration of the tongue’s ventral surface and impeded suckling. The disorder was thus diagnosed as RFD based on the signs and symptoms.

RFD starts as a high-edge ulcerated surface. With repeated trauma, a swollen, fibrous weight with an ulcerative granuloma emerging with superficial necrosis will advance. Histopathologically, the mucosa with granulation and a mixed inflamed infiltration is characterized by ulceration and large number of eosinophils, including lymphocytes, macrophages, and mast cells.[6]

The disorder of Riga Fede includes a plethora of treatment options. The first choice of RFD should be conservative and where possible, exclude tooth extractions.[7] The extraction of teeth is not required to remove the traumatic agent. Teeth can have their morphology modified by flattening their edges with a finishing bur or a polishing disc.[8] The sharp borders can in some cases also be shielded with adhesive restorations.[9] If conservative treatment methods do not result in rapid injury resolution, tooth removal may be appropriate.[8] Excessive tooth mobility is often seen when the root is either in an early stage of development, with a high risk of swallowing or suction, or if it is supernumerary.[10,11]
In this scenario, the primary incisor was pre-maturely erupted and there was no indication of mobility without the possibility of suction or swallowing. As a result, the extraction of the early childhood tooth was exempted from managing the condition. Thus, we chose the conservative treatment line, which uses adhesive restoration, i.e. composite resin to cover the sharp incisal edge of the teeth as novel technique for management which is not yet used in the literature.

Topical administration of 0.12% chlorhexidine gel was also recommended for ulceration on the ventral surface of the tongue. Emollient paste (Hexigel) was used as an active medicine over the oral tissues. The vehicle offered a protective cover that helped to minimize the pain associated with oral discomfort on a temporary basis. The intervention provided instant comfort to the infant, who was able to breastfeed more peacefully and for longer periods of time, as well as the possibility of spontaneous lingual wound remission. The lesion healed in 15 days in the circumstances described, therefore, there was no need for a biopsy.

**Conclusion**

Early infancy teeth are uncommon, however, they can induce RFD. Early intervention is critical for proper treatment and prevention of malnutrition and dehydration in children. Rounding the rough edges of the teeth proved to be an excellent remedy, allowing nursing to resume and the lesion to completely disappear.

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