

Case Report

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Unusual Traumatic Injury Causing Hard Palate Perforation

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Abstract

Traumatic lesions in the oral cavity occur frequently in clinical practice. Most of the acute or chronic injuries of soft tissues were aroused from incorrect hygienic procedures or iatrogenic injuries. Origin of these conditions, location and clinical signs may be considerably different. They can appear typically and sometimes present bizarre characteristics. Palatal perforation is a rare condition encountered in the routine dental practice. Hard palate perforation may be seen due to various etiologic factors such as developmental, infections, malignancy. Trauma is known to be one of the rarest causes leading to palatal perforation. This case is being reported for its rarity. Here an unusual case of a 28-year-old male patient with perforation in the midline of hard palate secondary to accidental injury from a horn of a calf. The patient was operated surgically for closure of the hard palate perforation and there were no complications noted on follow up.

Keywords: Developmental; Palate; Perforation; Trauma; Tumors

Introduction

Palatal perforation can be defined as a communication between the nasal cavities and the oral cavity. There are various potential causes of palatal perforation. Failure of the palatal shelves to close during the sixth week of prenatal period results in cleft palate. Maternal alcohol consumption and cigarette smoking, folic acid deficiency, teratogenic drugs, certain viruses, corticosteroid use and anticonvulsant therapy are some of the environmental factors known to cause cleft palate [1]. Various infectious and granulomatous diseases, such as leprosy, tertiary syphilis, tuberculosis, rhinoscleroderma, naso-oral blastomycosis, leishmaniasis, actinomycosis, histoplasmosis, coccidiomycosis and diphtheria are reported to perforate the palate. Palatal perforation is also seen in autoimmune diseases like lupus erythematosus, sarcoidosis, Crohn's disease and Wegener granulomatosis [2].

Minor salivary gland malignancy adenoid cystic carcinoma is reported to cause palatal perforation [3]. Tumors can extend from maxillary sinus or nasal cavity and perforate the palate [4]. Although these neoplasms usually form a mass, but in advance cases perforation of palate may occur in course of disease or following treatment. Palatal perforation due to cocaine abuse is a well-known situation. Other drugs (heroin, narcotics) can be responsible for palatal perforation [5].

Sometimes following a surgical procedure such as tumor surgery, corrective surgeries or intubation can cause palatal perforation. Rare cases in which rhinoliths lead to palatal perforation have also been reported in literature [6]. The aim of presenting this case is to emphasize that, such rare type of traumatic injury could be an etiological factor causing perforation of hard palate.

Case Report

A 28-year-old male farmer reported to clinics with hole in the hard palate since 3 months. Patient had difficulty while eating and hoarseness of voice and change in speech. The patient revealed that, the perforation was resulted secondary to the injury led by a horn of a calf while working in his fields. The patient initially visited the primary health care centre nearby and was referred to us from the authorities there. There was no significant medical history and personal history. Examination confirmed nasal speech, intra-orally; an oval shaped perforation of the hard palate was noted in the midline. It was measuring about 2 cm x 1 cm, extending anteriorly up to ruguae area and posteriorly till the

first molars (Figure 1). No any signs of inflammation noted. Maxillary occlusal radiograph revealed a well defined radiolucency in the anterior region of the hard palate. Patient was managed successfully with conventional surgical approach (palatoplasty) with no post-operative complications (Figure 2).

Discussion

The palate is a complex part of the oral cavity with a variety of tissue types that give rise to a variety of pathologies. Understanding these conditions requires appreciation of the different tissues native to the palate and their complexity. Palatal perforation may be due to congenital or acquired causes. Acquired palatal perforations may be idiopathic or can be due to trauma, infectious processes, granulomatous disease, drug abuse, collagen vascular diseases, radiation arteritis, primary and secondary malignancies. Case reported here is first of its kind, where animal injury leading to perforation of the hard palate. Cases of traumatic palatal perforations have been reported in the literature but not secondary to the animal injuries. Hwang and Kim reported a case of submucous cleft palate in a 27-year-old woman



Figure 1: Perforation of the hard palate.

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Figure 2: Closure of the palatal perforation.

because of ingestion of hot food (Thermal injury). Perforation and midline notching at the posterior edge of the hard palate was seen noted [7]. A case of 69 years male patient was reported by Macleod in which perforation of the hard palate secondary to pressure atrophy was noted [8]. Ozul et al. [9] reported a case in which perforation of hard and soft palate is seen after a long intubation period. A case of palatal perforation in a 36-year-old female patient treated for empyema of maxillary sinus was reported by Pegler [10]. Differential diagnosis of a lesion presenting as palatal perforation should include infections (syphilis, leprosy, tuberculosis, diphtheria, mucormycosis, actinomycosis) tantrum oris, mechanical trauma, intranasal cocaine abuse, malignancies (especially nasal T cell lymphomas, carcinoma, melanoma), collagen vascular diseases (Wegener's granulomatosis, systemic lupus erythematosus), sarcoidosis and idiopathic cause such as midline non-healing granuloma [11].

Conclusion

Traumatic injuries to maxillofacial region are quite common

but this report presents a unique type of traumatic injury causing perforation of palate.

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