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Case Report

Removal of Large Palatal Torus: Case Report

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Abstract: Torus are benign bony growths commonly found in the mouth, particularly on the hard palate, maxilla, and in the vestibular or palatine region of the alveolar process, or on the lingual aspect of the mandible above the mylohyoid line. They are more common in women and individuals of Asian descent. The clinical case presented here illustrates the removal of a large lobular palatal torus in a 67-year-old male patient, performed in an outpatient setting. The surgical access was achieved through a mucoperiosteal flap in a "Y" shape due to the extension towards the posterior region. After the removal of the exostosis, suturing was performed with the placement of a surgical drain. Fifteen days post-surgery, the patient showed no signs of tissue necrosis.

Keywords: Torus; Oral surgery; Oral rehabilitation.

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1. Introduction

Torus are benign bony projections that are often found in the oral cavity. They can be located in the hard palate, in the maxilla, and in the buccal or palatal region of the alveolar process or in the mandible on the lingual surface and above the mylohyoid line [1]. They are more prevalent in women and people of Asian ancestry [2]. The etiology of torus is unknown; however, recent studies have reported that the appearance may be closely related to heredity and environmental factors.

Palatine torus is asymptomatic and clinically presents with varying shapes and sizes and is classified into three types: elongated, flat, nodular and lobular. The clinical appearance of the elongated pattern appears as a ridge in the midline with variable length, which may extend from the incisive papilla to the posterior region of the hard palate. The plane is characterized by a mild, smooth exostosis of convexity in the midline of variable size and is symmetrically distributed in the median raphe. The nodular type torus has two or more protuberances that come together, forming grooves between them and their protuberances have individual bases. The lobular aspect has a relatively large bony structure with a single sessile or pedicled base.

Radiographically, palatal tori appear as radiodense areas that exhibit more pronounced radiopacity than the surrounding bone. Microscopically, a mass of dense lamellar cortical bone is observed, sporadically alternating with an internal zone of trabecular bone. Due to its typical characteristics, the vast majority of cases are diagnosed in clinical consultation. In some situations, surgical treatment is necessary to remove the palatal torus, for example: large torus, recurrent trauma to the thin mucosa that covers the bony exostosis and, mainly, prosthetic indication. But surgical removal is also considered based on the patient's needs [3]. The present article highlighted a clinical case of surgical removal of palatal torus with a “Y” access with surgical indication pre-prosthetic rehabilitation treatment.

2. Case Report

A 67-year-old male patient was referred for surgical removal of a palatal torus due to the need for prosthetic rehabilitative treatment with a complete upper denture. The patient reported that the torus had been developing for about 20 years, with slow and painless growth. A cone beam computed tomography (CBCT) of the maxilla was performed to visualize the extent and insertion of the exostosis. The imaging examination revealed that the patient had generalized alveolar resorption, a sessile-based exostosis on the hard palate, lobular in shape, with physiological-appearing mucosa and a thin structure.

For the procedure, the patient was prepared with extraoral antiseptic using 2% chlorhexidine and intraoral antiseptic with 0.12% chlorhexidine, followed by the placement of a sterile surgical field. Anesthetic block was achieved by injecting the nasopalatine nerve and the greater palatine nerve bilaterally. The surgical incision was made in a "Y" shape. After careful mucoperiosteal flap due to the thin mucosa, the torus was fully exposed. To remove the exostosis, osteotomy was performed with bone-wearing drills, presectioning the lobes. After the complete removal of the bony structure, the mucoperiosteal flap was sutured back to its anatomical reference point. Following the surgical procedure, a provisional denture was installed as a drain, interposing a thin layer of surgical cement. After a period of 15 days, the mucosa appeared well adhered, with clear signs of healing and no tissue necrosis (Figure 1).

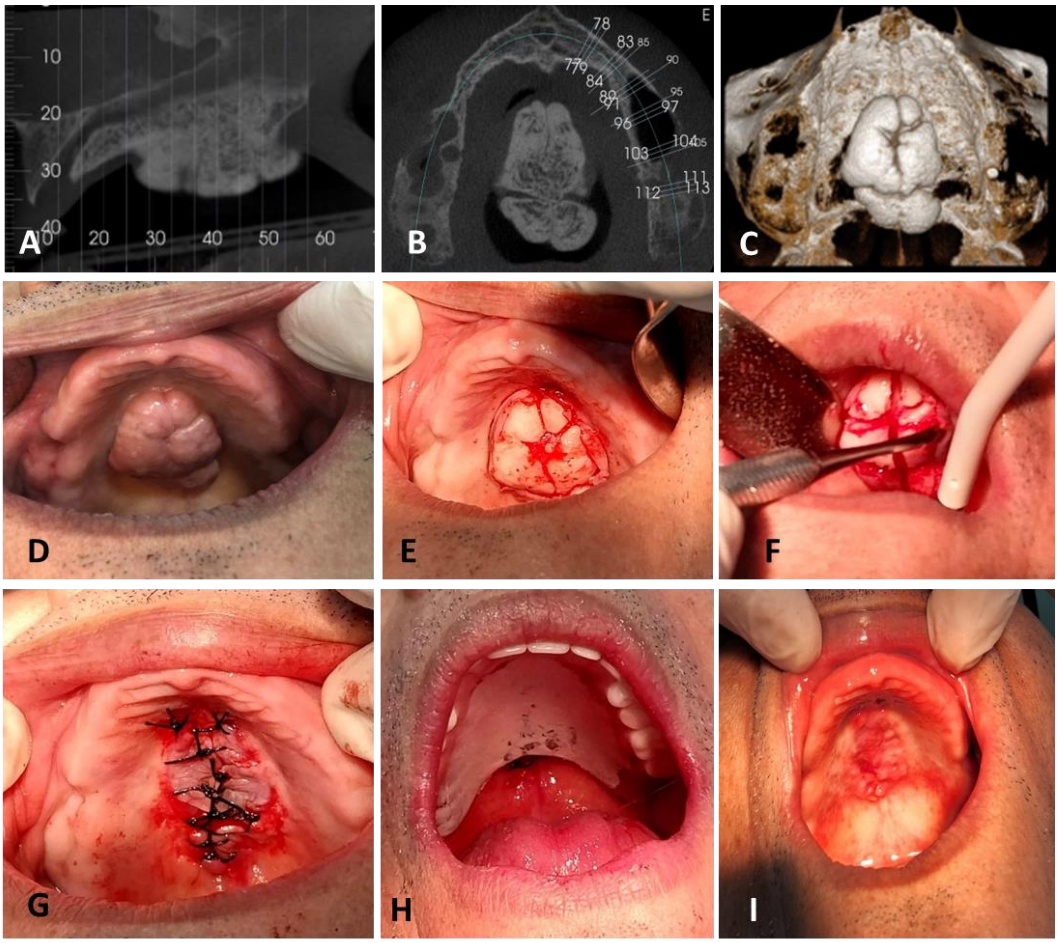

Figure 1: A. Tomographic appearance of the lesion in a sagittal section. B. Tomographic appearance of the lesion in a coronal section. C. 3D reconstruction of the palatal torus. D. Initial clinical appearance. E. Exposure of the bony exostosis after mucoperiosteal flap. F. Bone section of the torus performed with a surgical drill. G. Immediate postoperative appearance. H. Immediate postoperative appearance with surgical drain and cement. I. Postoperative appearance after 15 days.

3. Discussion

The palatal torus is characterized by a benign bony protuberance located in the midline of the palate, with a higher prevalence in females [1]. The etiology of torus development is still unknown. However, recent studies have reported that its prevalence may be closely related to heredity and environmental factors, including dietary habits, the use of medications such as phenytoin, and the patient's nutritional status [3]. Torus exhibits slow but progressive growth, with the highest growth rate between the second and third decades of the patient's life [4,5]. The classification of the size of the palatal torus is based on the shape and height from the base to the peak, with the following measurements: small (0 to < 3 mm), medium (3 to < 5 mm), and large (≥ 5 mm) [1].

Generally, tori are asymptomatic, and the indication for surgical removal is closely related to prosthetic rehabilitative treatment, as a donor source for bone grafts in implant surgery, or at the patient's request. However, there are other reasons for surgical indication, such as chewing limitations, traumatic ulcers, food retention, high sensitivity, and speech disorders [3]. When there is difficulty with the stability of a denture, the only treatment is surgical excision, as well as in cases of ulcerations, dysphagia, and local trauma, with surgery under local anesthesia [6] and flap repositioning that can be made in four types: "Y" or double "Y" incision, semilunar incision with a lateral base, full-thickness incision, and modified incision [6].

In the clinical case presented, a "Y" incision was chosen because the structure of the lesion extended to the limits of the soft palate, although its base was on the hard palate. "Y" incisions are the most commonly used due to the broad exposure they offer and the minimization of risks of injury to the nasopalatine and greater palatine nerves [7]. After flap creation, the mucoperiosteal detachment must be performed with great caution to avoid tissue laceration. It is also important to be cautious during the osteotomy to prevent the creation of an oroantral communication [7].

4. Conclusion

The clinical case illustrates the removal of a palatal torus in a patient indicated for prosthetic rehabilitation with a complete denture. The surgical removal of the torus was the first-choice treatment, with an individualized selection of the surgical access, requiring caution during the osteotomy stage of the exostosis.

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Conflicts of Interest: None.

Supplementary Materials: None.

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