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Mandibular torus: Clinical and surgical considerations – Case report

Tórus mandibular: Considerações clínicas e cirúrgicas – Relato de caso

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ABSTRACT

Introduction: Mandibular torus is an exostosis characterized by bone growth. It is frequently seen in male patients, with a prevalence in young adults and middle-aged patients. Regarding treatment, the literature advises not to remove the mandibular torus, only in specific situations is intervention necessary. Objective: The aim of the present study is to report a case of female mandibular torus and to detail its removal. Methodology: Case report describing the anamnesis, medical history, oral clinical examination, imaging examination and the chosen intervention after analysis of the collected data set. Case report: A 74-year-old female patient sought dental care complaining of dissatisfaction with her smile. After a thorough clinical examination, the presence of a hardened, lobular mass was noted in the region of the lingual alveolar process of the mandible, covered by a normal-looking mucosa. The patient reported discomfort and pain with the presence of the mass. Based on the clinical examination and complementary imaging test, the patient was diagnosed with mandibular torus, so it was decided to remove it because it would compromise the treatment intended for it. Thus, she proceeded to perform the surgery, was later instructed to follow some recommendations and was constantly monitored by the team. Conclusion: The study presented a case of mandibular torus that culminated in the effective

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removal of the bilateral mandibular torus, contributing to a better adaptation of the prosthesis, ensuring a better adaptation, stability and retention of the prosthetic piece.

Keywords: Dental care, Diagnostic imaging, Exostosis, Dental abnormalities, Oral surgery.

INTRODUCTION

Torus is an abnormal benign bone growth, consisting of dense cortical bone, a limited amount of medullary bone, which is covered by a thin and poorly vascularized mucosa[1].

It is associated with mature cortical bone development, characterized by the presence of a trabecular bone with occasional osteoblastic activity or even hematopoietic bone marrow. When located in the maxilla, they are located in its midline, and in existing cases related to the mandible, they are visualized in the vicinity of the milo-hyoid line and often in the region of premolars[2].

The literature describes torus as a developmental anomaly, with a wide variation in its phenotypic expression, so its prevalence of occurrence related to age occurs mostly in early adulthood and is rare in children [3]. In terms of gender, it is more common in men than women, with a higher prevalence among Asians and a lower predominance in relation to Africans4.

The occurrence and coexistence of torus for the authors is still a reason for great research and deepening on the subject, as there are still doubts regarding that need to be answered and explained through investigations by the researchers.

The etiology of torus is attributed to genetic and environmental factors, masticatory hyperfunction and continued growth, in addition to the individual tolerance threshold and the functional matrix hypothesis, in which it is described that the load-bearing force requires bone remodeling and strengthening[2],5,6. Therefore, this study aims to present and discuss a case of mandibular torus in a 74-year-old patient.

METHODOLOGY

Case report describing the anamnesis, medical history and its evaluation of oral clinical examination, the use of imaging for the present case and intervention chosen after analysis of the collected data set.

CASE REPORT

A 74-year-old female patient came to the Clinic of the Faculty of Dentistry of the Federal University of Pará (UFPA) describing dissatisfaction and discomfort with her smile. First, the

complete anamnesis of the patient was performed, then her general health condition was analyzed, and then a clinical examination was performed. Clinical examination revealed the development of a hardened, lobular texture due to the extension of the lingual alveolar process of the mandible, covered by a normal-looking mucosa. The patient complained of discomfort and the appearance of pain in the atypical region, which she had previously observed (Figure 1).

As part of the necessary dental treatment, the patient underwent imaging tests to obtain more details of the conditions of the supporting tissues and alveolar ridges. An occlusal X-ray of the patient was performed at the site, which showed an image compatible with cortical bone (Figure 2), confirming the diagnosis of bilateral mandibular torus. Due to the need to make a removable partial prosthesis with a tongue bar, and that the anomaly would prevent its manufacture, in addition to the probability of causing trauma in this region, promoting more discomfort for the patient, with this in mind, the attitude adopted by the professionals was its surgical removal.

The patient reported being hypertensive and not making correct use of her medication on the day of the anamnesis, so she was referred for evaluation by the physician who accompanied her, and after medical clearance, the treatment continued.

In view of the hypertensive condition, the patient could not be exposed to a long surgical period. Therefore, it was decided to perform the surgery in 2 moments: at first, the surgery to remove the torus on the right side was performed, and after 15 days, the surgery on the left side was performed, following the same planning and step by step of the first surgery.

Thus, both surgeries were performed as follows: after the correct completion of the patient's data and verification of vital signs, intraoral antisepsis was initiated with 0.12% chlorhexidine mouthwash for 01 minute, and 2% chlorhexidine for extraoral antisepsis for subsequent placement of surgical drapes.

Subsequently, the patient was anesthetized, in which unilateral anesthetic block of the inferior alveolar nerve, lingual, buccal and mental nerves was performed, using a total of 04 tubes of Citanest 3% with Octapressin (Prilocaine Hydrochloride + Felypressin). An intrasulcular incision was made with a No. 15 scalpel blade and a full-thickness periosteal mucus detachment (envelope flap) on the lingual surface, extending in the region between tooth 41 and 47, in the case of the right side. On the left side, the incision extended in the region of teeth 31 to 37, for adequate exposure of the entire torus (Figures 3 and 4).

The removal of the exostosis was performed with a high-rotation surgical drill No. 6 (Figures 4, 5 and 6), and osteoplasty of the mandible for better regularization and bone

contouring was performed with a Maxcut drill in a straight piece and with a bone file, using abundant irrigation with 0.9% sodium chloride saline solution throughout the procedure. After the end of the surgery, the suture was performed with 5-0 nylon thread in simple stitches.

The patient was instructed about the postoperative recommendations, which consist of: rest, feeding, wound care and oral hygiene. Regarding the control of pain, inflammation and infection, the following drugs were prescribed: Amoxicillin 875mg + Clavulanate 125mg every 12 hours, for 07 days (totaling 14 capsules), Dexamethasone 4mg every 08 hours, for 03 days (totaling 09 tablets), Dipyrone 1mg every 06 hours, for 03 days (totaling 12 tablets), and mouthwash with 10 ml of 0.12% chlorhexidine for 7 days.

After seven days, after the second surgery, the patient returned for postoperative evaluation, in which there was adequate tissue repair of the wounds, after which the sutures were removed. After the time of stabilization and tissue renewal, around 90 days, the patient returned to control, and it was reported that she reestablished the functions of the stomatognathic system, improving chewing, phonation and swallowing (Figure 6). She was then referred to the other treatment needs.

DISCUSSION

The origin of the torus has not yet been clarified, but most cases are related to genetic factors. A simple dominant pattern of inheritance, or even environmental factors, has been observed in some populations. The literature shows situations possibly related to the occurrence of torus, one of which may be heredity, function, continuous developmental process and nutritional disorders 5, 6, 7.

Possible causes may be related to multifactorial characteristics, and thus, it is speculated, for example: genetic predisposition, masticatory parafunctional factors, malocclusion, temporomandibular joint disorders, migraine, increased consumption of fish (unsaturated fatty acids and vitamin) and excessive consumption of calcium and vitamin D [3].

The diagnosis of mandibular torus is made by means of intraoral clinical examination and complementary imaging examinations, such as occlusal, periapical and panoramic maxillomandibular examinations, and generally do not require biopsy[2]. On imaging tests, they appear as a slightly radiopaque shadow or radiopaque projections. It should be noted that the use of imaging exams is indispensable, along with the clinical examination, to exclude expansive bone pathologies with similar characteristics, as can be seen in the case description, in which

occlusal imaging was used to confirm the pathology and dispensed with biopsy in this case 8, 9, 10.

Thus, the evaluation should be carried out in a thorough and precautionary manner, since other manifestations may confuse the diagnosis, such as: osteoma, ossifying fibroma, cutaneous calcinosis, osteitis and osteoid osteoma8,9, as well as abscesses, salivary gland neoplasms, bone neoplasms, vascular tumors and even included teeth [2],3.

The finding of this developmental anomaly in most cases is usually unforeseen by patients and observed during the clinical examination in the dental office. Patients may have speech problems, chewing mechanical difficulties, mucosal ulcerations, food deposits in the compromised region, prosthetic instability, and some may experience cancerophobia and consult a professional to seek a solution. In the reported case, it is possible to observe that there is the presence of symptoms described by the patient, in addition to the discomfort present in the region, influencing her to seek a professional, so these aspects differ from other cases, since most cases are asymptomatic and the search for the surgeon – dentist is for other reasons 3, 10, 12.

The growth of the torus is gradual over time, being greater in the second or third decade of life, with size varying between 3 and 4 cm in diameter and being less than 1.5 cm. Its occurrence can be unilateral or bilateral, with the latter being predominant, so much so that it is evidenced in the patient in question (Figure 1), occurring in 90% of the patients. The characteristics are slow and progressive, asymptomatic growth, with a higher incidence in young adult males, in this clinical case the patient is female, which makes it distinct 3, 10.

The most frequent justification for torus removal is the need for prosthetic treatment or to be a potential source of autogenous cortical bone for grafts in periodontal surgery, cyst surgery, or implant surgery. In cases where oral physiology is modified and compromises swallowing, diction and phonation, or even in cases where mucosal trauma generates painful ulcerations, the surgical procedure is recommended, and it is worth noting that if these conditions are not met, the authors recommend its permanence 10, 11

Thus, some of these conditions mentioned are observed in this case report, such as regarding the position in which the TM is located, because it ends up not being favorable for the intended procedure, since the site involved would be placed the removable partial prosthesis, already appears with a possible aspect of trauma, taking into account the reddish appearance associated with the complaints of the same, Thus, it can trigger ulcerations, consequently hindering certain activities.

It is worth remembering that in cases of oral rehabilitation that includes total or partial removable dentures, there is also a need to remove this bone growth, since it compromises the adaptation and stability of the prosthetic pieces 10, 11. Because of this, in the reported case, swallowing associated with a symptomatic condition motivated the decision of surgical excision of the mandibular torus, because the clinical manifestations and its sensitivity, together with a region involved by irregularities compromised the manufacture of the prosthesis, it is worth remembering that these are determining factors for the efficacy of a prosthesis. and beyond the process during the individual's habituation.

Regarding the surgical technique performed, it followed the pattern, however, due to the patient's comorbidity, it was preferred to be performed in two periods to avoid any possible complications. Thus, as the postoperative period was established in accordance with the recommendations established and described above.

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FIGURES

Figure 1 – Initial clinical appearance

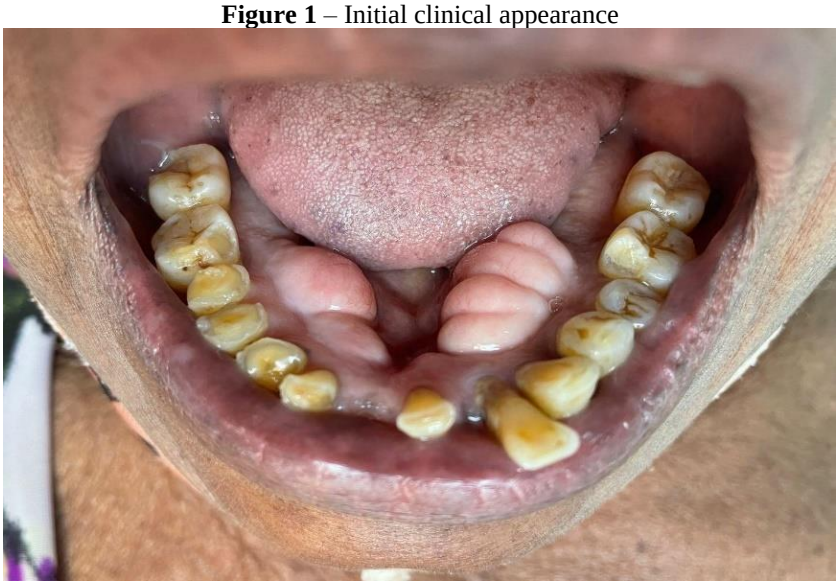

Figure 2 – Radiographic appearance

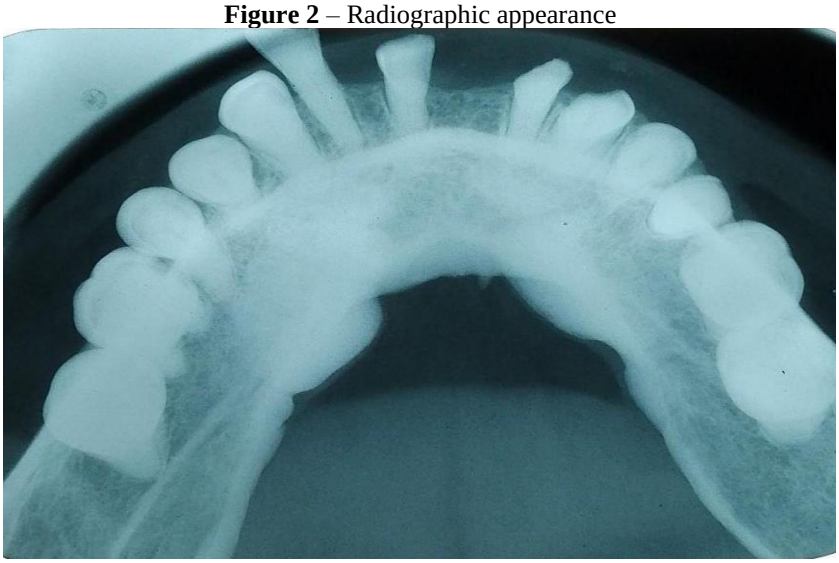

Figure 3 – After right soft tissue detachment

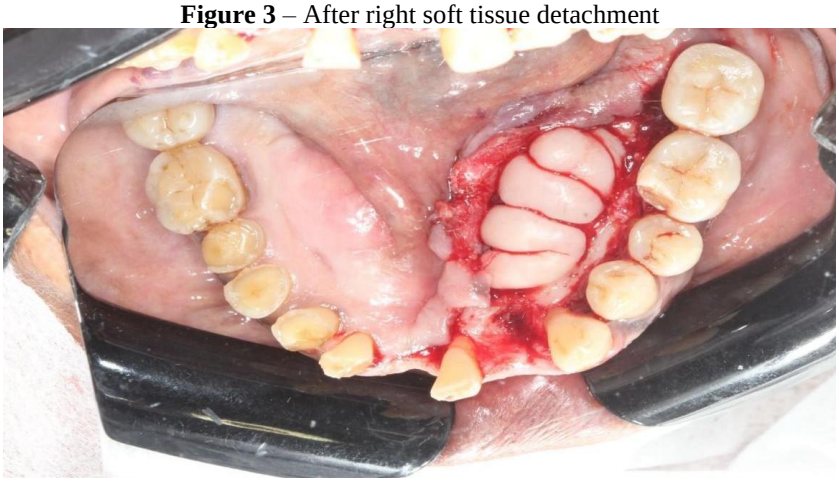

Figure 4 – Post-removal of the torus

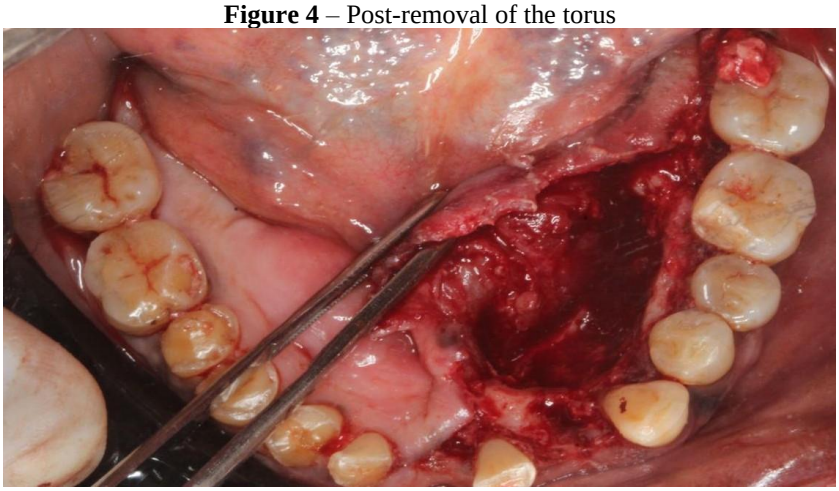

Figure 5 – Torus bone fragments

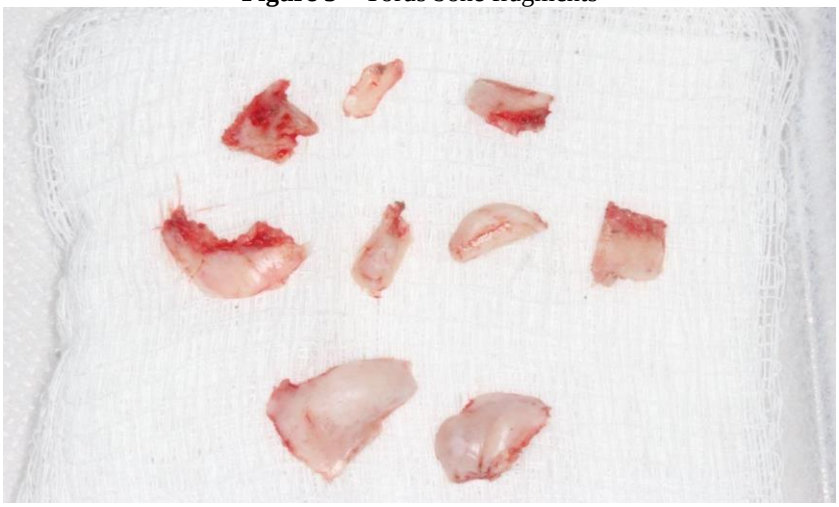

Figure 6 – Appearance after surgery