

An Atypical Midline Anterior Torus Mandibularis: A Case Report

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ABSTRACT

Benign bony growths called tori can develop in various places throughout the mandible and maxilla, although their exact origin is still unknown. There have been numerous reports of unilateral or bilateral Mandibular Tori (MT); however, no reports of a midline anterior mandibular tori have been made yet. A 27-year-old female patient reported with a complaint of a bony growth on her lower jaw below the tongue. The tori are unusually situated at the midline on the lingual side of the mandibular central incisor. The elements shown to be causal were the gender of the male, the ethnicity of Asians, and developmental in origin. The cornerstone of treatment for Tori is surgical resection. After a year of follow-up, there was no recurrence. The present case highlighted the significance of etiological factors for bony exostosis management and recurrence, which, in conjunction with origin, gender, ethnic and racial factors, may account for the patient's lack of recurrence.

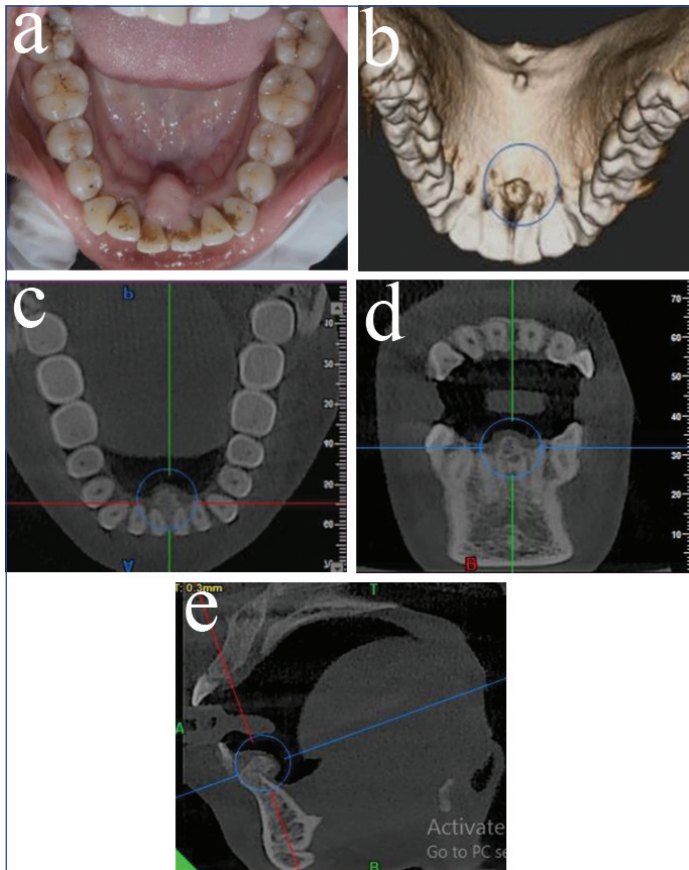
Keywords: Atypical torus, Exostoses, Large torus, Mandibular tori, Osteoma, Tori

CASE REPORT

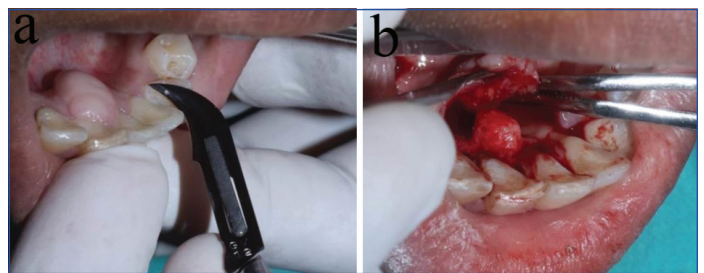
A 27-year-old female reported of progressive swelling since 20 years inside the mouth that had increase in size. Patient also reported difficulty in with mastication and also reported carcinophobia. Examination of the floor of the mouth revealed an oval-shaped nodule growth that was about 1.5x2 cm and was covered with normal mucosa [Table/Fig-1a]. The growth was attached anteriorly and lingually in the mandible, and was sessile, firm and non tender. A provisional diagnosis of a benign bone tumour was made, and peripheral ossifying fibroma, osteoma, and mandibular tori were taken into consideration for differential diagnosis. A distinct,

smooth-surfaced sessile hyper-density mass was seen on Cone-beam Computed Tomography (CBCT), lingual to the alveolar crest region of both mandibular central incisors [Table/Fig-1b-e]. The nodule featured a typical appearance of trabecular bone in the center, encircled by a distinct cortical edge.

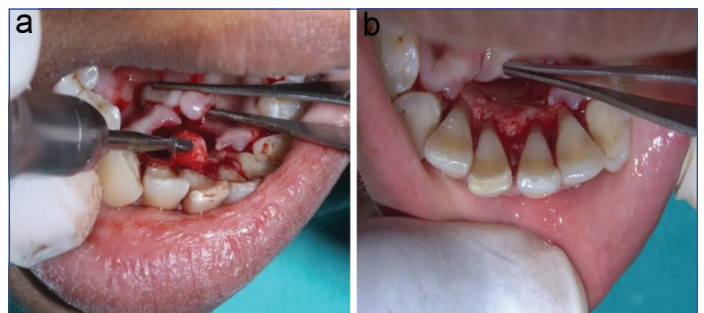
Under local anaesthesia, the nodular growth was surgically eliminated using a fissure bur, and extensive irrigation was carried out to remove the tori and alveolar bone recountouring using bone files [Table/Fig-2,3]. A histopathologic examination revealed mature lamellar bone amalgamated with fibrous marrow tissue, confirming the tentative diagnosis of Torus Mandibularis (TM). There was no infiltration of inflammatory cells, and osteoblasts were visible within the lacunar gaps in the bone [Table/Fig-4a-b]. Hence, the definitive diagnosis of TM was made. At the 3, 6, and 12-month follow-ups [Table/Fig-5a-c], there was no recurrence noted.



[Table/Fig-1]: a) Intraoral clinical presentation; b) CBCT- 3D reconstruction; c) CBCT-occlusal view; d) CBCT-coronal view; e) CBCT-sagittal view.



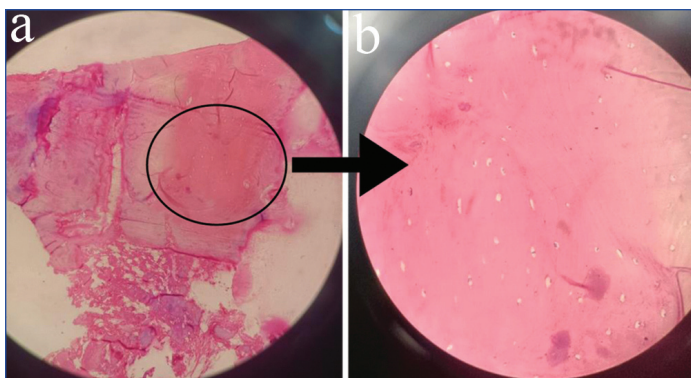
[Table/Fig-2]: a) Crevicular incision; b) Full thickness flap raised.



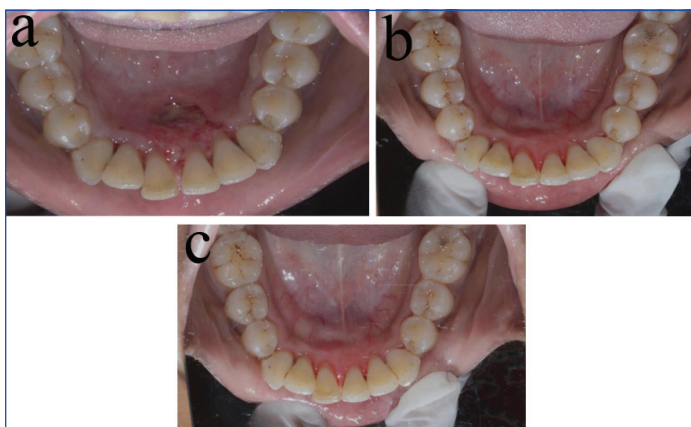
[Table/Fig-3a,b]: Surgical excision using fissure bur followed with bone contouring.

DISCUSSION

The Latin word 'to stand out' or 'lump' is the source of the term 'tori', which refers to bony protuberances or localised



[Table/Fig-4]: Histopathological images of TM: a) 10x magnification; b) 40x magnification.



[Table/Fig-5]: Postoperative follow-up at: a) 1 week; b) 3 months; c) 6 months.

bony outgrowths. They are slow-growing, asymptomatic, and discovered in the second and third decades of life. Palatal tori are prevalent in females, but mandibular tori are common in males. The precise cause of tori is unknown; however, a number of factors, including genetics, environment, masticatory hyperfunction, ongoing growth and bone mineral density, have been linked to the formation of tori. The range of incidence rates for palatal and mandibular torus is 9.2-66% and 0.5-63.4%, respectively [1]. Pynn BR et al., listed five indications and consequences that call for the removal of torus, including traumatic mastication ulcers, prosthodontics concerns, cancer phobia, interference with tongue function during mastication and difficulty speaking normally [2].

Mandibular tori are common clinical findings that do not require treatment; however, in cases of mucosal ulceration, hindered tongue movement, sleep apnoea and speech problems, surgical excision is recommended [3,4]. The authors hereby describe a large atypical bony exostosis on the midline lingual aspect of the mandible, imitating both osteoma and MT. Since the patient was experiencing difficulties in mastication and had a fear of cancer, surgical management was chosen after counselling and with the patient's consent in the present case.

The precise cause of MT, is still a subject of debate, but the following factors have been identified in the literature as contributing to its aetiology: During embryonic growth, the mandibular internal lamina reaches the posterior and superior part of the Meckel cartilage. Subsequently, this bony growth arises as tori. Additionally, the incidence of tori varies by ethnic group, with populations such as Caucasians, Asians, Japanese, Spanish, Ghanaians, Americans, and Eskimos having higher rates of tori [3]. Literature indicates that there is no evidence of a benign bone exostosis recurrence following excision [3]. A mandibular torus case in a male patient had local recurrence one month later, Which was retreated by surgical removal. The reason was exostosis did not resurface with the use of a mouthguard, bruxism is most likely to blame for the recurrence

[5]. According to Eggen S and Natvig B, the number of functional teeth seems to be important for the maintenance of tori [6]. This perspective supports the idea that abnormal mechanical stress likely contributes to the development of tori [7]. Contrary to the previous illustration, in the present case, the female patient did not exhibit any of the occlusal stress-related aetiologies that have been linked to MT, and no recurrence was found until the 12-month follow-up; hence, it was presumed that the condition was developmental in origin and had existed from birth.

One of the most common differential diagnosis of MT is osteomas. They are benign bone neoplasms characterised by the proliferation of compact or cancellous bone. They are divided into extraskelatal and endosteal types. In the orofacial region, paranasal sinuses are the most common site for peripheral osteomas, whereas the jaws are less common. The lingual aspect of mandible, angle and inferior border are more frequently involved than the maxilla. MTs are naturally occurring, non pathological osseous outgrowths. MTs are frequently discovered accidentally during clinical examinations in the third or fourth decade of life, but in the present case, the patient reported to the Outpatient Department (OPD) with the chief complaint of the nodular mass. MTs frequently appear above the mylohyoid attachment of the mandible, close to the lingual location of the bicuspid but very rarely in the midline, in relation to the mandibular incisors as found in the present case; hence, there was a dilemma in the final diagnosis, which was confirmed after histopathological examination. The radiological and clinical features of MT and osteoma are quite comparable. Given that both MT and osteoma are benign bony exostoses, the diagnosis is still up for debate [8,9].

Jaw sclerotic lesions are prevalent and frequently seen on CBCT and radiography. Based on radiographic analysis, the lesions can be categorised as non-odontogenic, odontogenic, or mixed lytic sclerotic. Understanding density, position, periphery, internal structure, and interaction with teeth is all made possible by imaging. These descriptions, especially for benign bone lesions, along with demographic details, may aid in a final diagnosis. In the current case, on CBCT imaging, a clearly defined, smooth-surfaced, sessile mass was observed lingual to the alveolar crest area of the central incisors of the mandible. It was a non odontogenic sclerotic lesion as its origin is not associated with tooth-related pathologies [4].

In cases of discomfort or continuously developing pathology where surgical removal is recommended, surgery is the treatment of choice, as in the present case. Surgical excision was performed using a fissure bur and extensive irrigation. Castro Reino O et al., recommend using a high-speed turbine cooled by regular saline solution for the surgical excision of MT [10]. However, it is important to consider the possibility that this could lead to emphysema. Following surgery, routine monitoring should be carried out to rule out lesion recurrence [3]. In the present case, follow-up was conducted at every 3-month interval until 12 months. An unintended consequence of surgically excising distally expanded tori is the potential for lingual nerve injury. Haemorrhage on the floor of the mouth and infection are some side-effects of tori surgery. One of the most modern methods for tori removal and smoothing is the use of lasers, which is the least invasive and with a lower probability of minimal complications [1]. Further research is needed to determine the various aetiologies in the development of tori in order to treat cases of the condition more effectively.

CONCLUSION(S)

The TMs are benign bony growths that are typically asymptomatic and non cancerous. Therefore, they generally do not necessitate surgical intervention but may simply require reassurance through verbal counselling unless they become symptomatic and affect speech or chewing function. The dentist can decide whether to

proceed with the surgical removal of the lesion or to leave it untreated and follow-up on it based on clinical and radiological aspects.

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