CASE REPORT

Surgical removal of mandibular tori and its use as an autogenous graft

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SUMMARY

While there is a hereditary component to tori, this does not explain all cases. Tori tend to appear more frequently during middle age of life. Certain ethnic groups are more prone to one torus or the other. Torus is mainly removed owing to prosthodontic reasons, as it may also be used as biomaterial, not only in periodontology, but also in implantology. This case report deals with the surgical removal of mandibular tori and is thereby improving clinical implications and serving as an adequate autogenous bone graft.

BACKGROUND

The tori (meaning 'to stand out' or 'lump' in Latin)¹⁻² are exostosis that are formed by a dense cortical and limited amount of bone marrow, and they are covered with a thin and poorly vascularised mucosa. They are usually located at the longitudinal ridge of the hard palate, at the union of the palatine apophysis of the maxillae or on the internal side of the horizontal branch of the jaw, above the mylohyoid line and at the level of the premolar and canine areas, presenting a very slow and progressive growth that can stop spontaneously.³⁻⁶ There are many notions on the formation and implications of tori,⁷⁻⁹ but these remain largely unsubstantiated to date. For example, according to Eggen and Natvig,¹⁰ the number of functional teeth seems to be important for the maintenance of tori. This view lends credence to the concept that (abnormal) mechanical loading presumably is associated with the formation of tori.¹¹ However, tori can also be considered as a potential donor site for autogenous harvesting of bone in the mandibular region. The cortical and cancellous nature of the bone, with a thickened outer cortical plate of haversian bone, makes it an excellent choice as a donor site for grafting procedures.

CASE PRESENTATION

A 47-year-old man was presented in the periodontal department with the chief complaint of bleeding from gums since 1.5 years and pathological drifting of teeth since 8 months. Intraoral examination revealed that the gingiva was bluish red in colour, swollen and bleeds upon probing with generalised grade I and grade II mobility of teeth, pocket formation and existing bilateral mandibular tori (figure 1). There were missing 35,36 for which the patient wanted removable prosthesis. The exostosis extended bilaterally from canine till second premolar on both the sides. The swelling was covered with a thin, intact mucosa with normal

Figure 1 Left preoperative.

colour. It was non-tender and hard in consistency upon palpation.

TREATMENT

A full mucoperiosteal flap was raised under local anaesthesia from the lower left side of the canine till the second molar and the exostosis was surgically removed with chisel and mallet and the flap was sutured (figure 2). The patient was asked to revisit after 1 week for suture removal (figure 3). A second surgery was performed on the right side and the full thickness flap was raised under local anaesthesia extending from the canine till the second premolar of the right side. The flap was raised on the buccal side as well as there was bone loss evident on radiograph (figures 4–7). Lingually, the flap was raised and extended up to the exostosis (figure 8). Exostosis was removed with the surgical chisel and bone mallet (figures 9 and 10). Autogenous bone graft was placed at the required site and sutures were placed (figures 11 and 12). Coe-pak was placed (figure 13). The patient was called after 10 days for a follow-up (figure 14).

Figure 2 Presurgical.

To cite: Rastogi K, Verma SK, Bhushan R. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2012-008297

Figure 3 Left postoperative.

Figure 6 After incision.

Figure 4 Right preoperative.

Figure 7 Flap reflection.

OUTCOME AND FOLLOW-UP

The patient returned 10 days after surgery for suture removal and to get the healing checked. Coe-pak was removed followed with sutures. There was minimal inflammation, and the patient indicated that he had minimal discomfort after surgery and that the area felt normal 3 days after surgery. A follow-up appointment was scheduled at 4 weeks after surgery to check the site. The surgical site 4 weeks after surgery showed lack of inflammation and complete healing.

DISCUSSION

The cause of mandibular torus has not been clearly determined, though both genetic factors and environmental factors such as

diet, presence of teeth and occlusal pressure are suspected to be involved.¹ Some reports have suggested that genetic predisposition to mandibular torus may be inherited in a dominant manner. With regard to environmental factors, one study suggested a correlation between the number of existing teeth and incidence of mandibular torus, as the number of existing teeth was significantly higher in patients with mandibular torus than in those without mandibular torus. Further, occlusal stress such as bruxism and teeth clenching have been noted to be involved in the development of the condition. The risk of mandibular torus generally decreases after middle age. In the present case, genetic factors and diet of the patient were unknown. Despite his advanced age, the patient had 28 existing teeth and

Figure 5 Incision.

Figure 8 Mandibular tori reflection.

Figure 9 Bone graft obtained through chisel and mallet.

Figure 10 Autogenous graft obtained from mandibular tori.

Figure 11 Graft placement.

Figure 12 Suture.

Figure 13 Coe-pak placement.

Figure 14 Postoperative after 10 days.

demonstrated a favourable occlusal relation. Environmental factors, such as long periods of good occlusion with the remaining teeth, seem to be largely responsible for both the occurrence of and an increase in mandibular torus. Generally, surgical resection is not required for mandibular torus, as long as the condition remains asymptomatic. However, treatment is indicated when subjective symptoms such as discomfort, pain, articulation disorder or problems in the insertion of dentures are present. In the present case surgical resection of tori was required to serve as adequate bone graft in areas with periodontal bone loss evident on radiographic examination and also for placement of removable prosthesis.

Learning points

- The technique has been described that offers substantial benefits for the clinician and the patient.
- Use of the mandibular tori as local donor sites for autogenous graft placements reduces morbidity associated with other graft procedures, enhances site preparation and aids the prosthetic phase.
- Despite these clinical advantages, the applicability of the technique is limited to the small segment of the patient population that exhibits mandibular tori.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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