INTRODUCTION

Exostosis is not a true tumor. It is a proliferation of peripheral bone that results from localized excessive growth of ossein. In the oral cavity, the condition often results in palatal torus, mandibular torus, or torus in the maxillary alveolar process. The incidence rate ranges from 9.2% to 66% for palatal torus and 0.5% to 63.4% for mandibular torus [1]. Incidence rates vary markedly depending on race. The incidence of mandibular torus is low at 6% to 12.5% among Caucasians and people of African descent, while it ranges from 26% to 61% among Inuit and Aleutian individuals, and is reported to be relatively high in Asian individuals [2]. Here we present a case of movement disorder of the tongue caused by mandibular torus and discuss some related reports in the literature.

CASE REPORT

A 73-year-old woman began feeling discomfort in the area of the lower incisor when eating in August 2005, which led her to visit a dental office on October 19, 2005. She was referred to our department for detailed examinations the next day.

The patient was moderately built and appeared to be well nourished. Her face was bilaterally symmetric. Extraoral examination revealed no abnormal features.

In regards to intraoral findings, painless masses 20 x 15 mm in size that were well-defined, nodular, and of bonelike hardness were found bilaterally in the gingiva on the lingual side of the lower premolars. Tongue movement was limited, as the lingual frenulum was trapped in the area that had been narrowed by the bilateral masses, making it difficult to extend the tongue to its original position and therefore the masses were removed under general anesthesia. After surgery, the course of the patient was favorable, with no tongue movement disorder or other symptoms observed.
Tongue movement was limited, as the lingual frenulum was trapped in the area that had been narrowed by the bilateral masses, making it difficult to extend the tongue to its original position (Fig.2). A CT examination showed a pedunculated high density mass lesion, with the cortical bone observed bilaterally.

An incision was made in the gingival margin on the lingual side of the first permanent molar from the right lower canine. The mucoperiosteum was detached bluntly to expose the bone surface, which was flat and smooth, and had the appearance of cortical bone. A guide groove was formed on the base of the torus using a fissure bur and the torus was resected en bloc using a bone chisel and mallet (Fig.4A). After the sharp edge of the bone was filed with a bone file, the wound was closed. The left mass was removed using the same procedure (Fig.4B). Histopathological examination showed that the masses consisted of dense lamellar bone, with normal tissue proliferating but no tumor component present (Fig.5). After surgery, the course of the patient was favorable, with no tongue movement disorder or other symptoms observed (Fig.6).

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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 [3]. In 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 [4]. Further, occlusal stress such as bruxism and teeth clenching have been noted to be involved in the development of the condition [5]. The risk of mandibular torus generally decreases after middle age. In the present case, genetic factors and diet of the patient were unknown. Despite her advanced age, the patient had 28 existing teeth and demonstrated a favorable occlusal relation. Environmental factors, such as long periods of good occlusion with many remaining teeth, seem to be largely responsible for both the occurrence of and an increase in mandibular torus. Although it is common for mandibular torus to occur on both sides of the underjaw, it is rare for the frenulum of the tongue to be complicated with bilateral swollen 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 this present case, surgical resection was performed to correct both a movement disorder of the tongue and a mild articulation disorder. Incision at the time of resection does not typically involve side incision. However, the incision line in the gingival crest must be extended so that the mandibular torus is sufficiently exposed. Furthermore, a lengthwise incision on the side of the tongue is not recommended because it is likely to induce thin delamination of the mucous membrane on the gingival crest. Therefore, care should be taken to avoid damaging the mucous membrane of the mouth floor with bone chisel at the time of resection. Given the direct correlation between severity of mandibular torus and the covering surface area of mucous membrane after resection, suturing often should be performed after mucous membrane trimming. In this present case, peeling of the mucous membrane was relatively easy even though the mandibular torus was relatively large. This was because the incision line in the gingival

Fig. 4 Excised specimen

Fig. 5 The masses consisted of dense lamellar bone without tumor components.

Fig. 6 Following surgery, discomfort disappeared and the mucosa from the lingual alveolar portion to the floor of the mouth was smooth.
crest was sufficiently extended. In addition, the use of a postoperative bleeding-control mouthpiece was found to be useful in protecting the wounded area and in reducing pain.

REFERENCES


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