Journal of Oral and Maxillofacial Surgery, Medicine, and Pathology 27 (2015) 361–365

Contents lists available at ScienceDirect

Journal of Oral and Maxillofacial Surgery, Medicine, and Pathology

journal homepage: www.elsevier.com/locate/jomsmp

Case Report

A case of central odontogenic fibroma in a pediatric patient: Mandibular reconstruction with parietal bone

Takeshi Shiraishi[a,*], Masataka Uehara[b], Shuichi Fujita[c], Tohru Ikeda[c], Izumi Asahina[a]

[a] Department of Regenerative Oral Surgery, Unit of Translational Medicine, Nagasaki University Graduate School of Biomedical Sciences, Japan
[b] Department of Oral and Maxillofacial Surgery, Division of Maxillofacial Diagnostic and Surgical Science, Kyushu Dental College, Japan
[c] Department of Oral Pathology and Bone Metabolism, Unit of Basic Medical Sciences, Nagasaki University Graduate School of Biomedical Sciences, Japan

ARTICLE INFO

Article history:
Received 18 September 2013
Received in revised form 30 March 2014
Accepted 8 April 2014
Available online 26 June 2014

Keywords:
Central odontogenic fibromas
Pediatric patient
Mandibular reconstruction

ABSTRACT

Central odontogenic fibromas (COFs) are benign odontogenic tumors derived from the dental mesenchymal tissues. They are rare tumors that account for 0.1–12.8% of all odontogenic tumors [1–8]. The location of COFs and the tumor incidence with respect to sex and age distributions are not well understood. Clinical features of the tumor include an asymptomatic expansion of the cortical plate of the mandible or maxilla and unilocular or multilocular radiolucency. Here, we describe a case of COF in the posterior region of the left mandible in a 3-year-old girl. The mandible was segmentally resected with the tumor and reconstructed with a parietal bone graft. No signs of recurrence or postoperative complications including occlusion were found. The esthetic outcome was satisfactory.

1. Introduction

Central odontogenic fibromas (COFs) are rare benign neoplasms characterized by proliferation of mature odontogenic mesenchyme. The incidence of COFs is reported to be between 0.1% and 12.8% [1–8]. Although there is much discrepancy in the reported results, the incidence of COFs may be lower because COFs have previously been confused with hyperplastic dental follicles due to the histological similarity [9,10]. COFs appear as an asymptomatic expansion of the cortical plate of the mandible or maxilla. The tumor occurs with similar prevalence in both the maxilla and mandible, and mostly appears in the posterior region of the mandible and the anterior region in the maxilla [1,3–5]. COFs appear in all ages and in both genders with a tendency to occur more often in the second and third decades of life and in females. The most common clinical sign is the swelling of the mandible or maxilla without pain or paresthesia [1–8,11–13].

This paper describes a case of COF arising in the mandible of a 3-year-old girl, the youngest COF patient reported. The lesion was excised with segmental mandible resection, and the resected mandible was reconstructed with a parietal bone graft. Mandibular reconstruction of young patients is also discussed.

2. Case report

A 3-year-old girl presented to the Department of Oral and Maxillofacial Surgery at Nagasaki University Hospital complaining of painless swelling on the left side of the mandible and also trismus that had appeared a few months ago. Her medical and family histories were unremarkable. Her face looked asymmetrical with a slight swelling of the left cheek (Fig. 1A). The range of the mouth opening was restricted to 10 mm. Intra-orally, the anterior floor of the left lower jaw was expanded firmly, and the overlying mucosa appeared normal (Fig. 1B). She reported no paresthesia, and none of the lymph nodes were palpable. A panoramic radiograph showed a well-circumscribed expansive radiolucent area extending from the left molar region to the ascending ramus of the mandible (Fig. 2). Computed tomography (CT) and magnetic resonance images showed a widespread mass lesion in the ramus that had expanded and thinned the cortical bone of the mandible, including perforation of the lingual cortex. The size of the mass was 35 mm × 25 mm × 17 mm (Fig. 3). Positron emission tomography (PET)/CT showed low [18]F-fluorodeoxy glucose accumulation,

☆ Asian AOMS: Asian Association of Oral and Maxillofacial Surgeons; ASOMP: Asian Society of Oral and Maxillofacial Pathology; JSOP: Japanese Society of Oral Pathology; JSOMS: Japanese Society of Oral and Maxillofacial Surgeons; JSOM: Japanese Society of Oral Medicine; JAMI: Japanese Academy of Maxillofacial Implants.

* Corresponding author at: 1-7-1 Sakamoto, Nagasaki, 852-8588 Japan. Tel.: +81-95-849-7704, fax: +81-95-849-7705.
E-mail address: shiraishitakeshi@nagasaki-u.ac.jp (T. Shiraishi).

http://dx.doi.org/10.1016/j.ajoms.2014.04.008
2212-5558/

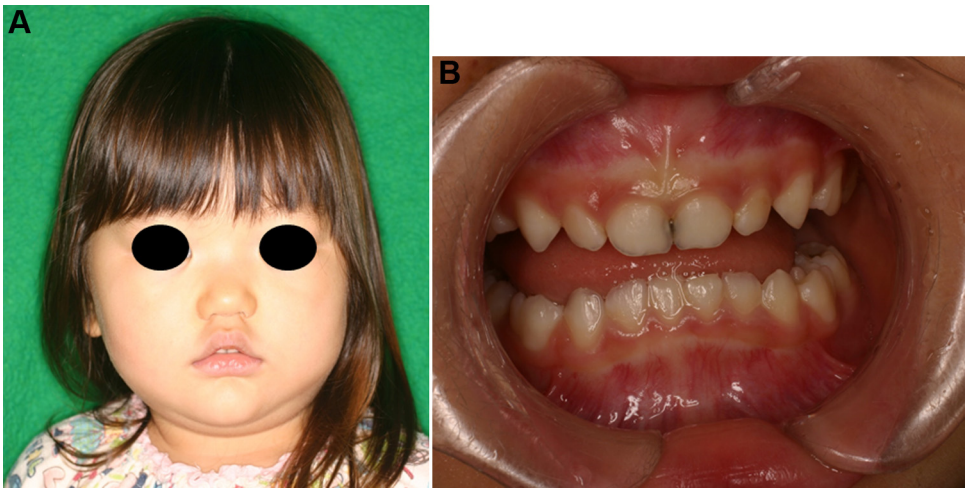

Fig. 1. (A) A 3-year-old girl with a slight swelling of the left cheek. (B) She had trismus. The range of the mouth opening was restricted to 10 mm.

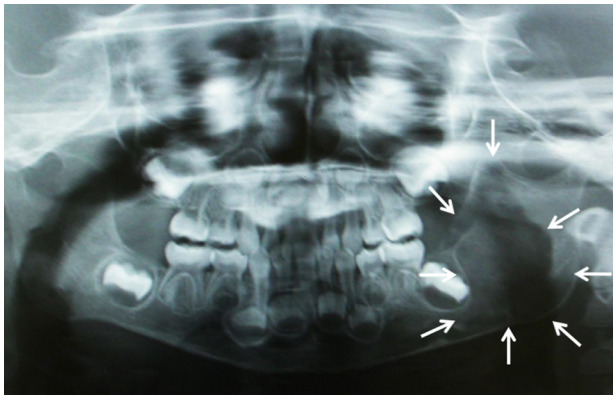

Fig. 2. Panoramic radiograph showing a well-circumscribed radiolucent lesion from the left branch to the body of the mandible.

indicating a low malignant potential (Fig. 4). A tumor of neural origin or a more aggressive lesion such as a juvenile ossifying fibroma was suspected following image inspection. An incisional biopsy was performed under general anesthesia. The histopathological diagnosis was inconclusive, but a non-calcifying fibroma was suspected. Because the lesion was growing rapidly and clinically the patient showed trismus, we thought that a juvenile aggressive ossifying fibroma (JAOF) was most likely. Therefore, under general

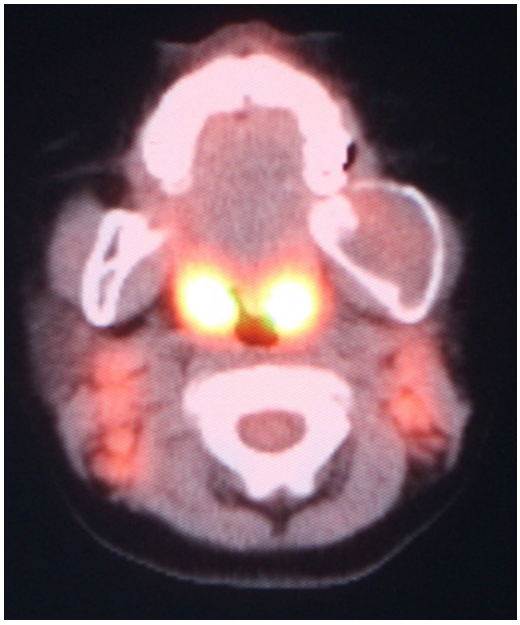

Fig. 4. Positron emission tomography (PET)/CT showing low [18]F-fluorodeoxy glucose accumulation.

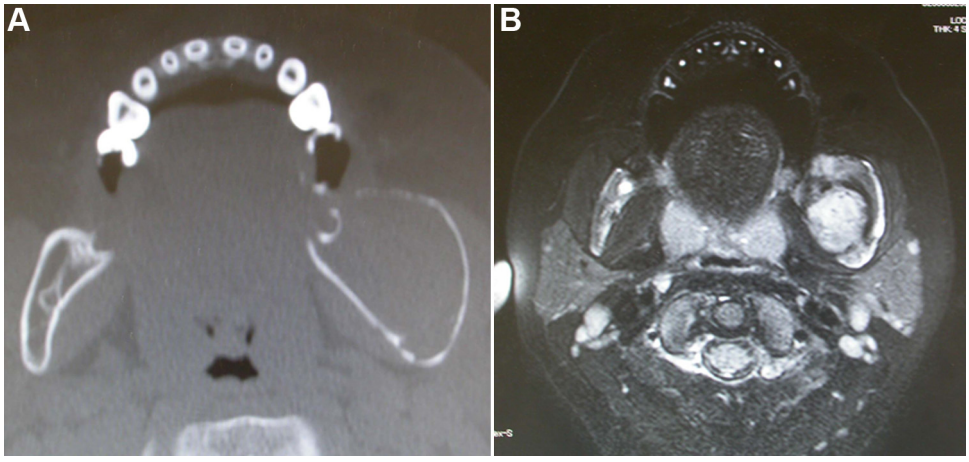

Fig. 3. CT scan (A) and magnetic resonance imaging (B) showing a widespread mass lesion. The size of the mass was 35 mm × 25 mm × 17 mm.