

Solitary Intraosseous Neurofibroma of the Mandible

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Article information	Abstract
<p>Article history: Received: 3 Oct 2013 Accepted: 20 Nov 2013 Available online: 28 Apr 2014 ZJRMS 2014 July; 16(7): 42-44</p> <p>Keywords: Intraosseous Neurofibroma Mandible</p>	<p>Neurofibroma is a benign neoplasm derived from peripheral nerve cells. Neurofibroma can occur as a solitary tumor also it may associate with neurofibromatosis. Intraosseous neurofibroma is a rare tumor particularly in the oral cavity. So far, few cases of solitary intraosseous neurofibroma of the mandible have been reported.</p> <p>In the present study, a 39 years old woman which has a diagnosis of solitary intraosseous neurofibroma of the mandible is reported. Clinical, radiographic, histopathologic and immunohistochemical features are described.</p> <p>Copyright © 2014 Zahedan University of Medical Sciences. All rights reserved.</p>

Introduction

Neurofibroma is the most common neoplasm derived from peripheral nerves. This tumor consists of a mixture of Schwann cells and perineural fibroblasts [1]. Neurofibroma can be created as a solitary lesion, while 90% of those tumors are associated with Neurofibromatosis type I [2]. Neurofibromatosis type I is an autosomal dominant disease with origin of the neural crest cells [3]. Neurofibroma often occurs in the soft tissue of the oral cavity [2]. Tongue and buccal mucosa are the most common intraoral areas [1] while intraosseous neurofibroma in this region is comparatively rare [1, 2, 4]. The present report describes a case of solitary intraosseous neurofibroma of the mandible in 39 years old woman.

Case Presentation

A 39 years old woman was referred to the Zahedan Dental School in September 2011 with complaint of severe pain in the right posterior mandible. The patient did not have any systemic problem. Also intraoral examination did not show any clinical evidence associated with the lesion. Radiographic finding showed a relatively well-defined unilocular radiolucency around the right mandibular second molar roots (Fig. 1). The present teeth in the area of the lesion showed vital pulp and there was no evidence of root resorption. Therefore, according to the clinical and radiographic features, differential diagnoses of the lesion were odontogenic cysts and tumors. Lesion was removed with incisional biopsy. Then specimens were submitted for histopathological examination. Gross examination showed the several pieces of the cream-brown colored soft tissue with firm consistency, which measured 2×6×12 mm. For histopathological evaluation, 5 micron sections were prepared from paraffin blocks of lesion and stained with hematoxylin and eosin (H & E). Microscopic study

showed the benign proliferation of spindle-shaped cells with wavy nuclei and collagen fibers within a myxoid stroma. Also mast cells, which are the helpful feature in identifying neurofibroma, and chronic inflammatory cells infiltration, were observed. Tumor cells were infiltrated into the surrounding adipose tissue and around blood vessels and nerve bundles. (Fig. 2) The initial diagnosis was neurofibroma. Immunohistochemical staining for S-100 protein was performed to confirm the diagnosis, which revealed positivity for S-100 protein.

After the diagnosis, the patient was called back to investigate other possible symptoms of neurofibromatosis syndrome. During the clinical examination, there was no sign of the neurofibromatosis. The history of patient showed that any other family members were not affected with systemic diseases and maxillofacial abnormalities.

Tumor and the affected tooth were removed with surgical excision under general anesthesia. A clinical follow-up performed for one year, there was no evidence of recurrence.

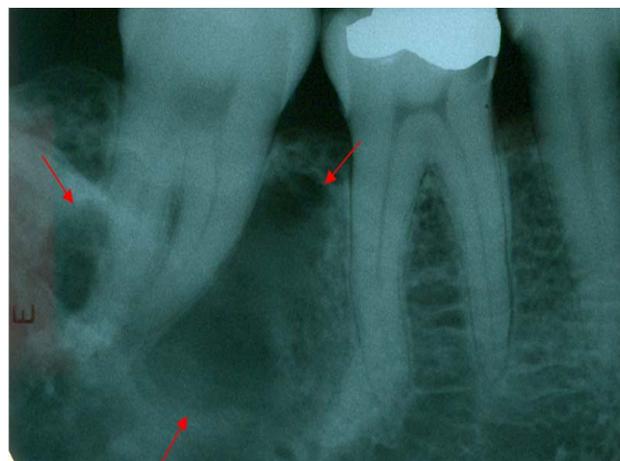


Figure 1. Periapical X-ray shows a relatively well-defined radiolucency around second molar teeth of mandible

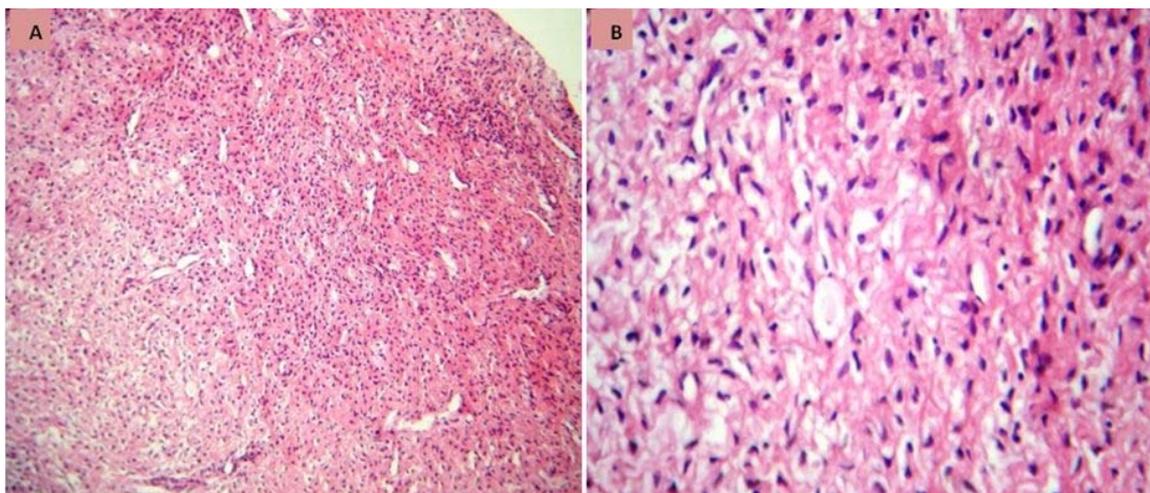


Figure 2. Histopathology of neurofibroma A: with 4×. B: with 40×, showing wavy appearance of the nuclei and fibrous tissue (H & E stain)

Discussion

Approximately 25% of the neurofibroma is seen in the head and neck region, and 5.6% of them occur in the oral cavity [5]. Central lesions in the jaw bones are rare [4]. So far, few cases of the solitary intraosseous neurofibroma of the jaw have been published [2]. Most of the solitary intraosseous neurofibroma has been reported in the posterior of mandible, probably due to the nerves passing through the mandibular canal and nerve branches of the teeth [4]. Neurofibroma occurs at the various ages between 14 and 45 years old, and the average age range is 27.5 years old [2]. Females are affected twice as much as males [3]. In our case, the patient was the 39 years old woman. Mandibular neurofibroma is asymptomatic in early stages, but it may be increased the size of the jaw bone and lead to the bone destruction, associated with pain and numbness of the lower lip [6]. Studies showed that most intraosseous neurofibroma of the mandible are asymptomatic. So far, few cases of symptomatic intraosseous neurofibroma have been reported [2].

Larsson et al. reported a 46 years old man who had affected intraosseous neurofibroma of the mandible with intermittent pain and bone destruction [7]. Apostolidis et al. also reported an intraosseous neurofibroma of the mandible with paresthesia, hypersthesia, and swelling of the mandibular canal in a 67 years old woman [8]. In another study, Moradzadeh et al. reported a case of

solitary intraosseous neurofibroma of mandible in a 10 years old girl with painless swelling of the bone [6]. A similar case of solitary neurofibroma of the mandible was reported in a 39 years old Indian female with complaints of spontaneously falling teeth with a plain asymmetricity [3]. In our report, a patient with severe pain in the right posterior of the mandible was referred for treatment.

Complete surgical removal is the treatment for solitary neurofibroma [3] and recurrence is rare [1]. But because of the previous reports of malignant transformation of these lesions, long-term follow-up of patients should be considered. In conclusion it is important for dentists to consider the intraosseous neurofibroma in the differential diagnosis of the jaw radiolucencies.

Authors' Contributions

All authors had equal role in design, work, statistical analysis and manuscript writing.

Conflict of Interest

The authors declare no conflict of interest.

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