Intraosseous Myofibroma of the Mandible: A Case Report

José Luis González; Jesús Oscar Reyes Escalera; Juan Carlos Cuevas González; Erika Rodríguez Lobato; Alma Angélica Rodríguez Carreón; Francisco Javier García Vázquez; José Eduardo Farfán Morales & María Elisa Vega-Memije


ABSTRACT: The myofibroma is defined as a benign neoplasm formed by myoid contractile cells localized around the wall of thin blood vessels, it is a tumor that presents itself mostly in infancy although it may occur at any age and it is most common in head and neck; it is uncommon to be localized in the oral cavity and even less common if it is intraosseous. It may also be associated to miofibromatosis or present itself as a solitary lesion. The differential diagnosis depends on the localization and the radiographic characteristics; it would be very difficult to include, at first hand, myofibroma as an intraosseous lesion. Histopathologically, a neoplasm with a biphasic pattern formed by spindle cells in fascicles and bundles, spindle nucleus with eosinophilic cytoplasm inside a hyalinized stroma was found. In lesions of neoplasms of spindle cells histological studies should be supported by an immunohistochemical panel and show positive results to antibodies Actin, smooth muscle Actin and Vimentin.

KEY WORDS: myofibroma, intraosseous, mandible.

INTRODUCTION

The myofibroma is defined as a benign neoplasm formed by myoid contractile cells localized around the wall of thin blood vessels (Fletcher et al., 2002), it is a tumor that presents itself mostly in infancy although it may occur at any age and it is most common in head and neck; it is uncommon to be localized in the oral cavity and even less common if it is intraosseous (Poon & Kwan, 2005; Kin et al., 2006; Acosta et al., 2012; Sundaravel et al., 2013).

CASE REPORT

A forty-five-year-old female shows up for dental caries treatment of chronic evolution with light pain. The intraoral examination shows an extensive second degree carious process on dental organ (DO) 37, with a light growth of the vestibular cortical compared to the cotralateral side and soft tissue similar coloration to the adjacent mucous; an ortopantomography and periapical radiography were requested. A well-defined radiolucid lesion with sclerotic surrounding and affection to the distal root of DO 37 was observed; a surgical extraction was decided (Fig. 1). Based on the carious process and the radiographic findings, a diagnosis of periapical granuloma vs. periapical cyst was considered. The excisional biopsy was performed.

In the histopathological study, a neoformation of non-encapsulated, well vascularized spindle cells of undulated nucleus, arranged in a "lace-like pattern" over a estroma of dense connective tissue and a mixed inflammatory infiltrate was observed (Fig. 2, a and b). Was positive to antibodies muscle actin specific (clone

---

* Professor of Oral Pathology, Universidad Juárez del Estado de Durango, Mexico.
** Professor of Maxillofacial Surgery, Universidad Juárez del Estado de Durango, Mexico.
*** Student of the Master and Doctorate Program in Medical, Dental and Health Sciences, Universidad Nacional Autónoma de Mexico, Mexico.
**** Department of Dermatology, Dr. Manuel Gea González General Hospital, Mexico City, Mexico.
***** Molecular Pathology Laboratory, National Institute of Pediatrics Mexico City, Mexico.
HHF35) 1:50, smooth-muscle actin (clone 1A4), CD34 (clone QBend34) positive in the peripheral vessels, but negative in the neoplasm 1:50 and positive for vimentin (clone V9) 1:100 (Fig. 3 a, b, c, d) and negative to antibodies s100 (policlonal) 1:100 and desmin (clone D33) 1:100 in the immunohistochemical panel. An intraosseous myofibroma was concluded.

Fig. 1. Ortopantomography requested from the patient for the clinical-radiographic evaluation. Radiolucid area localized at level of DO 37.

Fig. 2. Histopathological Features. H-E a) 200x Lesion of mesenchymal lineage, not encapsulated, very cellular, formed by fibro-connective tissue with dense irregular arrange of bundles of collagen fibers. b) 400x spindle cells of undulated nucleus, arranged in a “face-like pattern” and a mixed inflammatory infiltrate.

Fig. 3. Immunohistochemical panel. 400x a) Mesenchymal tissue intensely positive to Vimentin, b) Antibody CD 34 negative in the neoplasm and positive in the peripheral vessels, c y d) Identification of myofibroblasts through antibodies muscle actin specific and smooth muscle actin.
DISCUSSION

The etiology of myofibroma is uncertain; it may be of autosomal dominant or recessive type; nevertheless, the family incidence is low. It is suggested that there might be other factors involved (Kin et al.; Souza et al., 2009; Acosta et al.). It may also be associated to miofibromatosis or present itself as a solitary lesion as in the case presented. It is a tumor that affects the head and neck more frequently, although it is not so common in the oral cavity and less common intraosseously in the mandible (Acosta et al.) as in this report. In the vast series of cases reported by Foss & Ellis (2000), 79 myofibromas in the oral region, the mandible was implicated in a third; 12 were central lesions and the cortical or the surface of the periostium in 15 were affected. Brasileiro et al. (2010) mentions the development of this neoplasm at early ages. Allon et al. (2007) observed that from 19 cases of mandible intraosseous myofibroma in the literature and four more included at the time, the mean age was 7.2 years; this paper agrees with other authors that have reported solitary mandible myofibroma in adult ages in the third and fourth decades of life (Oliver et al., 2003; Ramadorai et al., 2010; Sundaravel et al.; Brierley et al., 2012).

The differential diagnosis depends on the localization and the radiographic characteristics (Acosta et al.), it would be very difficult to include, at first hand, myofibroma as an intraosseous lesion and it would have to be thought as a cyst, as it is this case, even if the patient referred pain due to caries. The myofibroma was a radiographic finding. Histopathologically, a neoplasm with a biphasic pattern formed by spindle cells in fascicles and bundles, spindle nucleus with eosinophilic cytoplasm inside a hyalinized stroma was found (Poon & Kwan; Kin et al.; Brasileiro et al.; Nirvikalpa & Narayanan, 2011; Acosta et al.). The myofibroma is positive to antibodies Actin, smooth muscle Actin and Vimentin; it is negative to Desmin S100 and EMA (Shields et al., 1998; Shibuya et al., 2008; Souza et al.; Brasileiro et al.; Nirvikalpa & Narayanan; Acosta et al.).

Surgical treatment is required and although the neoplasm is not encapsulated, the relapse is rare (Poon & Kwan; Kin et al.; Sundaravel et al.; Cargini et al., 2012; Abramowicz et al., 2012), in the case presented, there has been no relapse after a year.

CONCLUSIONS

In lesions of neoplasms of spindle cells histological studies should be supported by an immunohistochemical panel.

RESUMEN: El miofibroma es una neoplasia benigna compuesta por células mioïdes contráctiles localizadas alrede- dor de la pared de vasos sanguíneos delgados, es un tumor que se presenta sobre todo en la infancia aunque puede ocurrir a cualquier edad, tiene predilección en cabeza y cuello, sin embargo en cavidad oral es raro y aún más si es intraóseo, puede estar asociado a miofibromatosis o bien presentarse de manera solitaria. Los diagnósticos diferenciales dependen de la localización y de las características radiográficas y de primera instancia es muy difícil incluir al miofibroma entre las lesiones intraóseas. Histológicamente presenta patrón bifásico conformado por células fusiformes dispuestas en fascículos y haces así como núcleos fusiformes con citoplasma eosinófilo dentro de un estroma hialinizado. Es necesario recurrir al panel de inmunohistoquímica en neoplasias de células fusiformes, positivo a Acs Actina, Actina músculo liso y Vimentina. Reportamos el caso de una mujer de 45 año con un miofibroma en la mandíbula.

PALABRAS CLAVE: miofibroma, intraóseo, mandíbula.

REFERENCIAS BIBLIOGRÁFICAS


Correspondence to:
Juan Carlos Cuevas González, DDS.
Department of Dermatology
Dr. Manuel Gea González General Hospital
Calzada de Tlalpan 4800
Sección XVI Delegación Tlalpan
México
D.F. C.P 14080
Tel/Fax: 56657691
Email: cuevas_gonzalez@yahoo.com.mx

Received: 04-06-2013
Accepted: 10-08-2013