

CASE REPORT

Ameloblastic fibroma

Srinivas Rao Ponnam, Gautam Srivastava¹, Smitha B¹

Departments of Oral Pathology, ¹Oral Medicine and Radiology, Government Dental College, Gunadala, Vijayawada, Andhra Pradesh, India

Address for correspondence:

Dr. Srinivas Rao Ponnam,
Department of Oral Pathology, Government Dental
College and Hospital, Gunadala, Vijayawada,
Andhra Pradesh - 520 004, India.
E-mail: dr_srinivasrao@yahoo.com

ABSTRACT

Ameloblastic fibroma is a rare odontogenic tumor comprising neoplastic epithelial and mesenchymal tissues. This lesion was previously considered to be a benign lesion with very limited recurrence rate and malignant transformation. However, recent reports have suggested that this lesion has the potential for recurrence and malignant transformation. In this brief report, we report a case of AF in the context of its high cellularity on histopathological examination.

Key words: Ameloblastic fibroma, jaw tumors, Ki-67, odontogenic tumors

INTRODUCTION

Ameloblastic fibroma (AF) is an extremely rare true mixed benign tumor that can occur either in the mandible or maxilla.^[1] It is frequently found in the posterior region of the mandible, often associated with an unerupted tooth.^[2] It usually occurs in the first two decades of life with a slight female predilection, causing delay in tooth eruption or altering the eruption sequence. AF was first described by Krause in 1891. Small tumors are asymptomatic, while larger ones produce significant swelling of the jaws. On radiographs, smaller lesions are well circumscribed and unilocular with a sclerotic border, while larger ones are multilocular. Histopathologically, AF consists of odontogenic epithelium in the dental papilla-like background without dental hard tissue formation.^[3] Similar lesions with hard tissue deposits are categorized as ameloblastic fibro-odontoma or odontoma depending on the degree of calcification. Recently, there are few reports of this condition with high recurrence rates and malignant transformation.^[4]

CASE HISTORY

A 19-year-old female patient came to the Department of Oral Medicine and Radiology with a chief complaint of slowly progressive swelling on the right side of her lower posterior jaw. Patient had identified the enlargement 8 months back and her medical history was unremarkable.

On intraoral examination, the right lower buccal vestibule was obliterated due to the expansion of the buccal cortical plate. The mucosa over the swelling was normal, except for slight blanching due to expansion of the buccal cortical plate. The lesion is seen extending from posterior aspect of first molar to the retromolar area, measuring 3 cm in size. On palpation, the swelling was slightly tender and no abnormality was detected in the adjacent teeth.

Panoramic radiograph showed a unilocular radiolucent area with well-defined borders, involving the posterior aspect of the right mandible. The lesion was measuring approximately 3.5 cm in size and was extending posteriorly from the distal aspect of the second molar to the retromolar area. Inferiorly, the lesion was extending till the mandibular canal. Fine needle aspiration did not yield any fluid ruling out a cystic lesion. The lesion was enucleated and sent for histopathological examination.

Microscopically, hematoxylin and eosin sections showed islands and strands of epithelial cells in a loose connective tissue stroma resembling primitive dental papilla [Figure 1]. The peripheral epithelial cells lining the islands and strands were low columnar, similar to the cells found in the peripheral layer of the follicle in ameloblastoma. The connective tissue resembled cellular fibroblastic tissue similar to the dental papilla in the developing tooth. Hyaline-like tissue is also seen adjacent to the epithelial strands and islands [Figure 2]. It was interesting to note that both the epithelial islands and connective tissue stroma revealed high cellularity when compared with the conventional lesions of AF. However, severe dysplastic features such as cellular and nuclear pleomorphism and increased number of abnormal mitotic figures were not observed. In this context, immunohistochemistry for Ki-67 [Figure 3a] proliferative marker along with proper positive [Figure 3b] and negative [Figure 3c] controls were performed. Immunohistochemistry for Ki-67 was negative as it was not taken up by the tissue. This had ruled out the diagnosis of a

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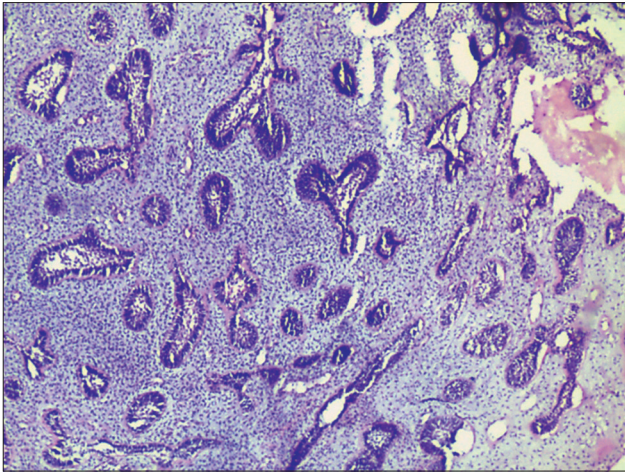


Figure 1: Photograph showing strands and islands of odontogenic epithelial cells in a loose connective tissue stroma resembling primitive dental papilla (H and E \times 100)

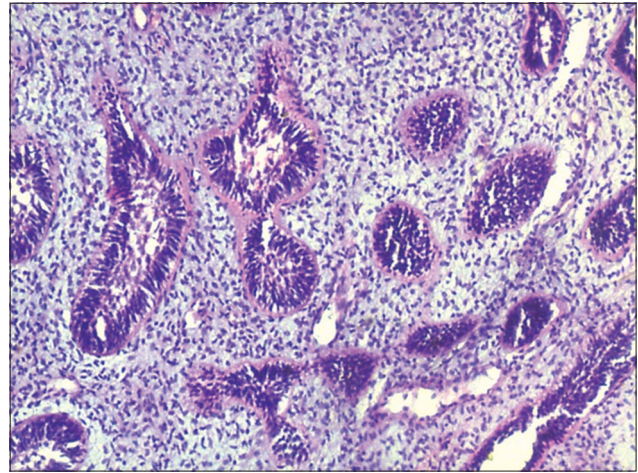


Figure 2: Photograph showing the peripheral cells resembling ameloblasts with Hyaline-like material surrounding the islands (H and E \times 400)

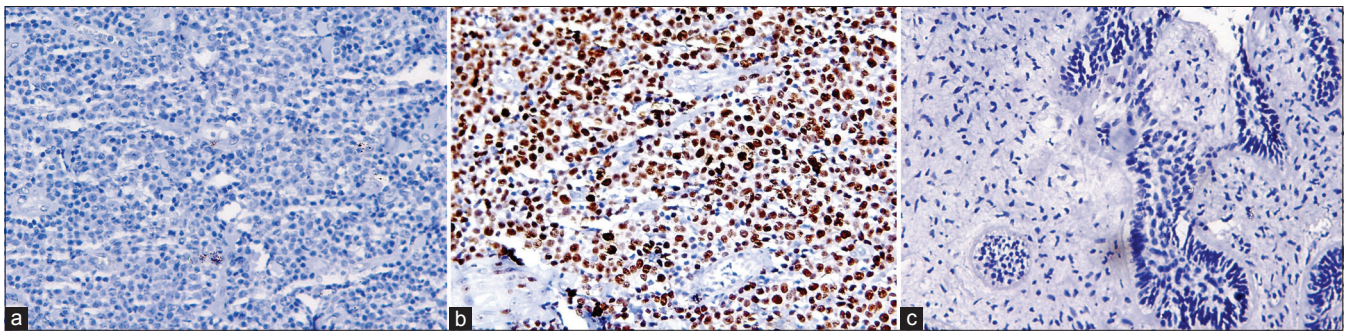


Figure 3: (a) Photograph showing negative staining for IHC marker Ki-67 antigen (b) Photograph of positive control for IHC marker Ki-67 antigen (c) Photograph of negative control for IHC marker Ki-67 antigen

malignant tumor, confirming the diagnosis of AF.

CONCLUSION

To conclude, we report a rare case of AF with high cellularity. The histopathological finding of high cellularity in this lesion is uncommon as conventional AFs show mild to moderate cellularity in a loose myxomatous connective tissue background. Our case of AF with high cellularity is unusual in the context of its histopathology.

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