Case Report

A case report of Ameloblastoma in 36 years old female patient

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Abstract

Ameloblastoma is benign odontogenic tumor of epithelial origin which is often aggressive and it originates from remnants of the dental lamina and dental organ (odontogenic epithelium). It is generally a painless and slow growing tumor causing expansion of the cortical bone and infiltration of the soft tissues. Its incidence peak is in the third and fourth decade of life and it is most common in black individuals. The ratio of ameloblastoma of the mandible to maxilla is 5 to 1, with higher sensitivity in the mandible. Here we are reporting the case of Ameloblastoma in 36 years old female patient and we are able to find and document the typical histopathological features of Ameloblastoma.

Key words

Ameloblastoma, Rare tumor, Mandible, Histopathology.

Introduction

Ameloblastomas originate from epithelial remnants of dental embryogenesis, without the participation of the odontogenic ectomesenchyme [1]. The terminology of ameloblastoma was based on an analysis of the odontogenic epithelium involvement in the tumor origin [2]. It presents a slow and persistent growth and is the most common (about 1-3% of all tumors and cysts) odontogenic tumor of the jaw bones, mostly located in the ramus of the mandible. It is occasionally associated with impacted third molars [3].

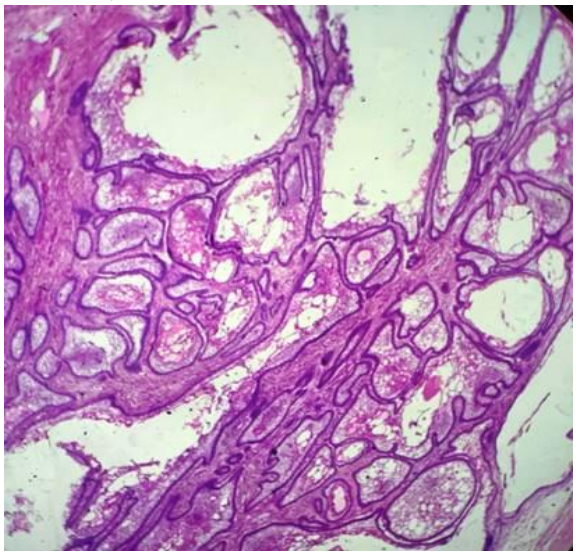
Its incidence peak is in the third and fourth decade of life and it is most common in black individuals [4, 5]. The ratio of ameloblastoma of the mandible to maxilla is 5 to 1, with higher sensitivity in the mandible [6]. Here we are reporting the case of Ameloblastoma in 36 years old female patient and we are able to find and document the typical features of Ameloblastoma.

Case report

A 36 Year old female, presented with a painful, right sided sub mandibular swelling since 8 months in the Surgical out-patient department of SBKS Medical College, Dhiraj Hospital, Waghodia. On examination, there was presence of 6.5×6 cm swelling in the right sided sub mandibular region. CT scan of whole jaw was done and revealed large expansile osteolytic lesion with multiple internal septae involving right ramus and body of mandible suggestive of Adamantinoma or Ameloblastoma.

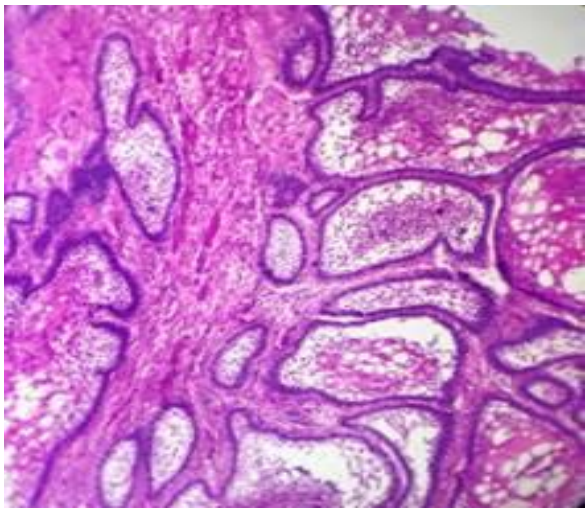
Photograph – 1: Solid and cystic areas of tumor in mandible.

Photograph – 2: Multiple cystic areas (H&E stain, 4X).

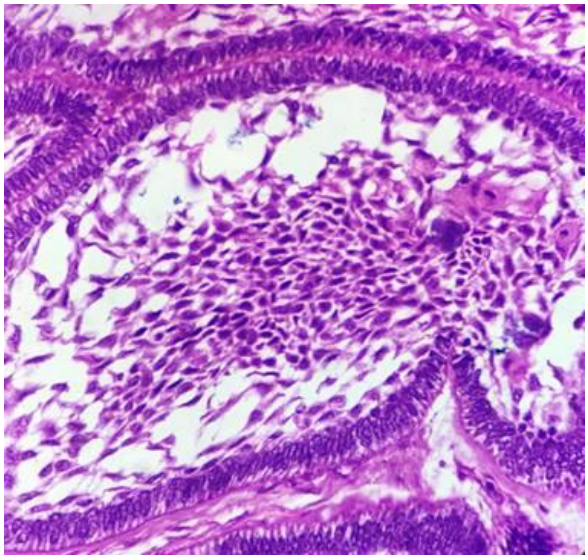


All the hematological, biochemical and serological examinations were normal. Wide and local excision of right sided mandible was done and the specimen was sent for histopathological examination. We had received multiple, irregular tissues total measuring 12×8×4 cm. The cut surface showed whitish solid tumor tissue with cystic areas and necrosis (**Photograph - 1**). On histopathological examination multiple section showed cystic areas which were lined by tall columnar cells with squamous metaplasia at places. There was also presence of island lined by dentigerous cells and associated with stellate reticular stroma. Based on these findings final diagnosis of Ameloblastoma was given (**Photograph - 2, 3, 4**).

Photograph – 3: Epithelial islands with fibrous connective tissue stroma (H&E stain, 20X).



Photograph – 4: Epithelial island lined by odontogenic epithelial cells with loose network of stellate reticulum (H&E stain, 40X).



Discussion

Ameloblastoma is benign odontogenic tumor of epithelial origin which is often aggressive and it originates from remnants of the dental lamina and dental organ (odontogenic epithelium). It is generally a painless and slow growing tumor causing expansion of the cortical bone and infiltration of the soft tissues.

Although ameloblastomas occur with equal frequency in both genders they are found slightly in higher frequency in women than men [7] as seen in our case. Ameloblastoma primarily affects young adults between the fourth and fifth decades of life. The mean age is most commonly between 35 and 45 years [8]. In the present case also the patient's age is 36 years old.

Ameloblastoma is usually included in the differential diagnosis according to the presentation of the patient's history and clinical characteristics. The diagnosis of ameloblastoma is usually suggested by various radiological modalities and a through loco regional physical examination. Nevertheless, a definitive diagnosis is only obtained through a histopathological examination [9].

The most common histologic subtypes of ameloblastomas are follicular, plexiform, acanthomatous, granular and desmoplastic. On Histologically Follicular Ameloblastoma shows epithelial island which looks like enamel organ. Tall columnar cells are present surrounding these islands and at the high power view island are showing toll columnar cells with the reverse polarity, which are Ameloblast cells. In the plexiform pattern, interdigitating cords and irregular masses of epithelial cells surrounding small amounts of stroma of the stellate reticulum can be observed. The granular cell pattern is an aggressive lesion with a significant tendency to recur, and the neoplastic epithelial component exhibits cells with a finely granular cytoplasm, resembling the cells of the granular cell tumor. The basal cell ameloblastoma is the least common type and is composed of nests of uniform basaloid cells. In contrast, the desmoplastic pattern exhibits the formation of a densely collagenized stroma with several fibrous septa [9].

Treatment for the ameloblastoma is surgical removal. Surgical excision is the treatment of choice and also looks out for the free margin. There are chances for the recurrence. One study showed that the histopathology of an ameloblastoma is significantly associated with recurrence [10]. In our case choice for the treatment was surgical excision.

Conclusion

Ameloblastomas are uncommon benign odontogenic neoplasms that rarely become malignant. In most cases, radical surgery is the treatment of choice for solid or multicystic ameloblastomas. Although clinical and imaging findings aid in the differential diagnosis, histopathological evaluation is essential for the definitive diagnosis of ameloblastomas.

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