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REVIEW ARTICLE **OPEN ACCESS**

Basal Cell Ameloblastoma: Series of Five Cases and Review of Literature

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ABSTRACT
Ameloblastomas are an enigmatic group of oral tumors. Ameloblastoma is a slow-growing benign neoplasm that has a strong tendency to local invasion and that can grow to be quitelarge without metastasizing. It hasseveral histologic variants viz. follicular, plexiform, acanthomatous, desmoplastic, and granular cell and basal cell types. Basal cell ameloblastoma is believed to be the rarest histologic subtype in which the tumor is composed of more primitive cells and has even fewer features of peripheral palisading. The basal cell ameloblastoma tends to demonstrate microscopic features similar to cutaneous basal cell carcinoma and basaloid squamous cell carcinoma. Till date, only few cases of basal cell ameloblastoma have been reported in the literature. Considering the rarity of the lesion, we report here five cases and review the literature of this rare tumor.
***Key Words**: odontogenic tumors, Basal cell ameloblastoma, acanthomatous ameloblastoma, granular cell ameloblastoma*

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INTRODUCTION

The odontogenic tumors are a complex group of lesions which exhibit diverse clinical behaviour and histopathologic variations[1] Of all swellings of the oral cavity, 9% are odontogenic tumors, and within this group, ameloblastoma accounts for 1% of lesions . WHOdefines it as a benign locally-invasive polymorphic neoplasia that often has a follicular or plexiform pattern in a fibrous stroma [2]. Ameloblastoma arises from the odontogenic ectoderm and presents as a variety of histological types that may create diagnostic challenge. which includes follicular, plexiform, acanthomatous, granular cell, basal cell, and desmoplastic patterns, although the histopathologic variations do not have significance on the prognosis. On the basis of these histopathological variants, the basal cell variant is least common type and accounts for only 2% of the histologic types with majority of the cases have been shown to occur in the mandible. These lesions are composed of nests of uniform basaloid cells with no stellate reticulum is present in the centre portion of the nest. The peripheral cells around the nest tends to be cuboidal rather than columnar. The microscopic appearance of basal cell ameloblastoma is similar to that of basaloid squamous cell carcinoma and cutaneous basal cell carcinoma[3] Till date, only few cases of basal cell ameloblastoma have been reported in the literature.Considering the rarity of the lesion, we report here five cases of basal cell ameloblastoma in a span of seven years.

CASE REPORT 1

A 12-year-old male was referred to the government dental college and hospital, Raipur in with the chief complaint of painless swelling in relation to right lower mandibular 2ndand 3rdmolar region. There was no significant past medical, dental and family history. There was no history of trauma, sinus opening or pus discharge. They was obliteration of buccal sulcus near 2nd and 3rd molar Nolymphadenopathy on palpation was noted. History of extraction of 46 was given during incisional biopsy, the details of which are not available

CASE REPORT 2

A60-year-old male patient reported with the chief complaint of painless swelling in relation to left mandibular 2nd molar to retromolar region. There was no significant past medical, dental and family history. Swelling was firm and hard in consistency. They was obliteration of buccal sulcus near left mandibular 1st, 2nd, 3rd molar. There was no history of trauma, sinus opening or pus discharge. No lymphadenopathy on palpation was noted.

CASE REPORT 3

A 27-year-oldmale patient reported with the chief complaint of painless swelling in relation to right lower mandibular 2nd and 3rd molar region. There was no significant past medical, dental and family history. There was no history of trauma, sinus opening or pus discharge. Swelling was firm and hard in consistency. They was obliteration of buccal sulcus near 2nd and 3rd molar. No lymphadenopathy on palpation was noted.

CASE REPORT 4

A 35-year-old male patient reported with the chief complaint of painless swelling in relation to right mandibular 3nd molar to retromolar region. There was no significant past medical, dental and family history. There was no history of trauma, sinus opening or pus discharge. Swelling was firm and hard in consistency. They was obliteration of buccal sulcus near 2nd and 3rd molar. No lymphadenopathy on palpation was noted.

CASE REPORT 5

A 33 old male patient reported with the chief complaint of painless swelling in relation to right mandibular 2nd molar to retromolar region. There was no significant past medical, dental and family history. There was no history of trauma, sinus opening or pus discharge. Swelling was firm and hard in consistency. They was obliteration of buccal sulcus near 1st , 2nd and 3rd molar. No lymphadenopathy on palpation was noted. (Table 1)

S.NO	AGE/S	SITE
1	12/M	Posterior Mandible Near Left 2nd Molar
2	60/M	From Right 2nd Molar To Retro Molar Region
3	27/M	In Buccal Vestibular Region Near Left 2nd Molar
4	33/M	Near Right 3rd Molar
5	35/M	Near Right 2nd Molar To Retromolar Region

Radiological findings in all cases showed multicystic, multilocular radiolucency with irregular borders. There was buccal and lingual cortical [late expansion in all cases along with root resorption of adjacent teeth. (Fig 1,2)

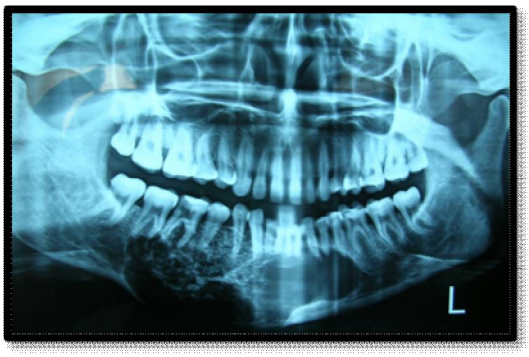

Fig 1

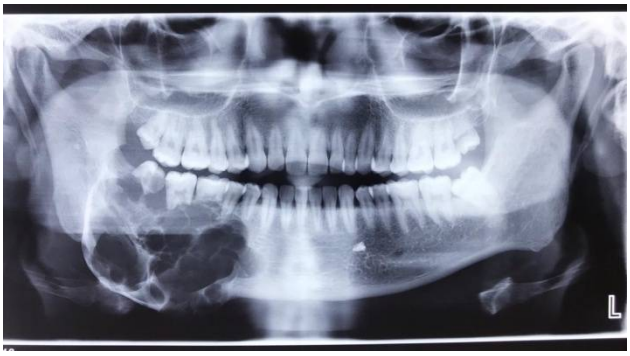

Fig 2

MICROSCOPY

H & E stained sections of all cases showed follicles showing peripheral cells as low columnar to cuboidal cells with no reverse nuclear polarityThe follicles were composed of uniform basaloid cells with no stellate reticulum. The lesional tissue of all the specimens were covered by fibrous capsule with the presence of fibrous septa , giving it a lobular patter (Fig 3,4)

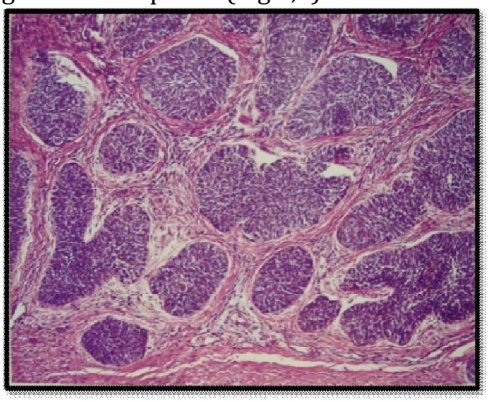

Fig 3 (10 X)

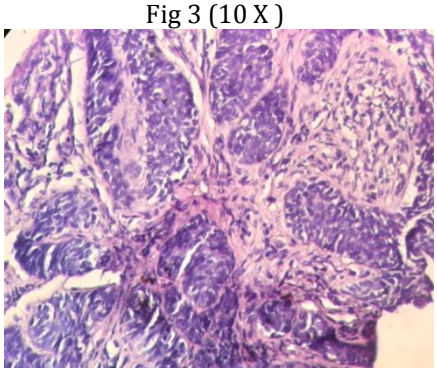

Fig 4(40 X)

DISCUSSION

Ameloblastoma previously known as admantinoma, is a benign but locally aggressive tumor. It was first reported by Falkson in 1879 and term was coined by Churchill in 1933. It represents only 1% of oral tumors and around 80% of cases had been reported in mandible. Histopathological variants include follicular, plexiform, granular cell, basal cell, desmoplastic and acanthomatous type. Out of which, the basal cell variant comprises only 2.02%. It shows much histological resemblance to basal cell carcinoma and basaloid squamous cell carcinoma [4-6].

The literature search of this variant was done through PubMed and google search and found 9 published articles with 13 cases of basal cell ameloblastoma on basis of age, sex, site [3-11]. Almostall cases reported were in 3rd – 7th decade of life except 4 cases which were in 1st decade[9]. Our cases also fall in 2nd - 7th decade of life with exception of 1 case which was in 1st decade of life [12]. All our reported cases were male and site in all cases were posterior mandible as compared to all published cases in which also majority of cases were in males and site was also posterior mandible.

Histological appearance shoes that Basal cell ameloblastoma tends to grow in an island like pattern with absence of characteristic color gradation as stellate reticulum is replaced by basaloid appearing cell in this variant. It reveals multiple follicles and strands of odontogenic epithelium in connective tissue

stroma. The peripheral cells of follicles tend to be low columnar to cuboidal and often do not demonstrate reverse polarity.The central portion in some of the follicles shows cystic degeneration. Deep basophilic stains can be observed in both basaloid and peripheral layers of cells.(Fig 3,4)

Its frequency, persistent local growth and ability to produce marked deformity accounts to serious debilitation accounts necessary for its early recognition. Thus we conclude that basal cell ameloblastoma needs a perfect diagnosis based on clinical , radiographical and also histopathological findings. The present case series here are in accordance with age , sex or involved sites& histopathology. So when in doubt after clinical and radiological examination, a biopsy is necessary. Long term follow up after surgery is also mandatory

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