

**Plexiform Ameloblastoma of Mandible: A Case Report****Pradkshana Vijay<sup>1</sup>, Nilesh Pardhe<sup>2</sup>, Ishank Singhal<sup>3</sup>, Rohit Punga<sup>4</sup>, Harendra Singh<sup>5</sup>**

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**ABSTRACT:**

Ameloblastoma is a benign epithelial odontogenic tumor which is locally aggressive. The tumor comprises of around 1% of tumors and cysts arising in the jaws. It most commonly appears in the third to fifth decades, with equal frequency between sexes. Ameloblastoma occurs predominantly in the mandibular molar and the ramus areas. Recurrence appears after inadequate treatment. Tumor is usually benign in growth pattern but often invades locally and occasionally metastasizes. In the present study, a case of plexiform ameloblastoma of mandible was presented with its clinical, radiological, histological features and treatment modalities.

**Keywords:** Ameloblastoma, Mandible, Odontogenic Tumor.

**INTRODUCTION**

Ameloblastoma is true neoplasm of odontogenic epithelium.<sup>1</sup> It represents around 1% of all oral ectodermal tumors and 9% of odontogenic tumors.<sup>2</sup> It is an aggressive tumor arising from remnants of the dental lamina and dental organ (odontogenic epithelium).<sup>3</sup> 70% of ameloblastomas develop in the molar-ramus region of the mandible and they are occasionally associated with unerupted third molar teeth.<sup>4</sup> Ameloblastoma appears mostly in the third to fifth decades but can be found in any age group including children.<sup>2,5</sup> The chief histopathological variants are the follicular and plexiform types, followed by the acanthomatous and granular cell types. Uncommon variants are desmoplastic, clear cell, basal cell ameloblastoma, papilliferous ameloblastoma and keratoameloblastoma.<sup>5</sup> Ameloblastoma can show radiologically unilocular or multilocular radiolucency with a honeycomb or soap bubble appearance. The plexiform pattern is less aggressive with significantly lower recurrence rate.<sup>6</sup>

**CASE REPORT**

A 13 years old female patient reported to us with a chief complaint of swelling in the lower left back tooth region of the jaw. The swelling was present since 1 month. It was initially small and gradually increased to the present size without any pain. No contributory past dental history was present except that the patient had a history of extraction i.r.t 37, 38, four months back. Extraoral examination revealed solitary, diffuse swelling present on left side of face measuring 4x3 cm, firm in consistency, with smooth & well defined margins, extending from infraorbital region to lower border of mandible superoinferiorly and from angle of mouth to tragus region anterioposteriorly (Figure 1a). On palpation, the swelling was nontender and firm in consistency. Intraoral examination revealed a diffuse solitary swelling, which was painless and nontender with color same as that of overlying mucosa measuring 1x1cm, extending into buccal mucosa & involving gingival mucosa posteriorly irt 36 (Figure 1b). General

physical examination was normal and blood examination report was within normal limits.

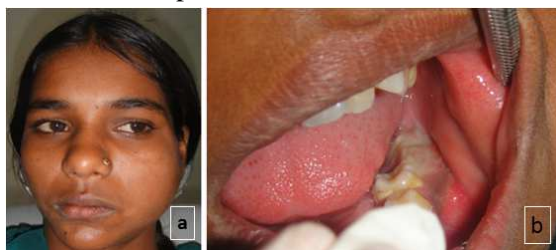


Figure 1: 1a: Extraoral examination showing swelling of left side of mandible; 1b: Intraoral examination showing extent of the lesion

Radiographic examination using OPG showed multilocular radiolucency involving the left posterior mandible, with erosion and resorption of cortical bone and intact thin lower border of mandible (Figure 2). Based on the clinical and radiographic findings a provisional diagnosis of KCOT was made and incisional biopsy was performed.



Figure 2: OPG showing multilocular radiolucency involving the left posterior mandible

Histopathological examination revealed, long anastomosing cords of odontogenic epithelium. The cords of epithelium were bounded by columnar ameloblast-like cells surrounding more loosely arranged epithelial cells which were suggestive of stellate reticulum like cells. The connective tissue stroma consisted of loose collagen fibre bundles and few dilated blood vessels were also noted (Figure 3). The overall features were suggestive of Plexiform Ameloblastoma.

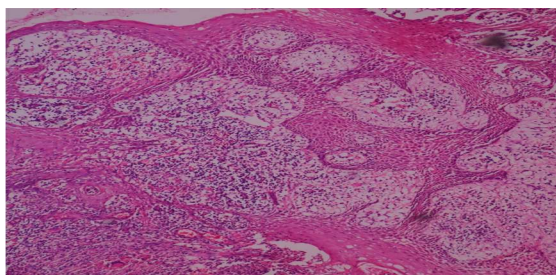


Figure 3: Photomicrograph showing long anastomosing cords of odontogenic epithelium bounded by columnar ameloblast-like cells in the loose connective tissue stroma

The patient was advised to undergo surgery, and the tumor was treated by en bloc resection. Patient's postoperative phase was uneventful.

## DISCUSSION

Ameloblastoma is a benign locally aggressive epithelial odontogenic tumor with the capacity to attain great size, erode bone and invade adjacent structures.<sup>7</sup> The term ameloblastoma was coined by Churchill in 1933 and first detailed description was by Falkson in 1879.<sup>7</sup> The term "plexiform" refers to the appearance of anastomosing islands of odontogenic epithelium in contrast to a follicular pattern. It is the most common odontogenic tumor and represents only about 1% of tumors and cysts of the jaws.<sup>5</sup> In the mandible, 70% are located in the area of the molars, 20% in premolar region, and 10% in anterior region.<sup>2</sup> Around 10-15% of ameloblastomas are associated with a non-erupted tooth. In the present case, plexiform ameloblastoma was found in the molar and ascending ramus region of the mandible and was not associated with non-erupted tooth. Ameloblastoma appears in equal frequency between sexes, but a higher frequency in females than in males has been shown.<sup>7</sup> In our case, the patient was female and was in first decade of her life. Clinically, it manifests as a painless swelling, facial deformity and malocclusion with ulceration and periodontal disease and paresthesia of the affected area. In our case, clinical examination revealed a diffuse mass in the ascending ramus and molar region of the mandible. The swelling was firm, painless and was covered by normal mucosa. Histologically, ameloblastoma is characterized by the proliferation of epithelial cells in a collagenous fibrous connective tissue stroma of vascular tissue in locally invading structures resembling enamel organ at different stages of differentiation.<sup>7</sup> The tumor found in our patient was ameloblastoma of the plexiform type.

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