Follicular Ameloblastoma

ABSTRACT

Ameloblastoma is a true neoplasm of odontogenic origin. It is the second most common intraosseous benign odontogenic tumor after odontome. A number of histologic variants of ameloblastoma have been documented in the literature and at times, may pose a diagnostic challenge to the pathologist, out of which follicular ameloblastoma is most common. Here, we present a case of follicular ameloblastoma involving the right side of mandible in a 55 years old male patient with emphasis on correlation between histological findings and clinical behavior of lesion.

Keywords: Follicular ameloblastoma, Mandible, Neoplasm, Odontogenic, Tumor.


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INTRODUCTION

Ameloblastoma is a true neoplasm which is described as tumor of odontogenic epithelial origin, derives its name from the English word ‘amel’ which means enamel and the Greek word ‘blastos’ which means germ. It is usually unicentric, nonfunctional, intermittent in growth, anatomically benign and clinically persistent. The term ameloblastoma was suggested by Churchill in 1934. Most patients are among the age group of 20 and 50 years. Males are affected more commonly as compared to females. It is a slow growing, often-asymptomatic tumor, arising in the mandible in over 80% of cases. Ameloblastoma is a locally destructive tumor with a propensity for recurrence if not entirely excised. The most common clinical indication is swelling and expansion of the jaws. Other clinical findings may include pain and delayed tooth eruption. Based on histopathology, ameloblastoma is classified into follicular, acanthomatous, granular cell, basal cell and plexiform variants. The follicular variant is most common followed by plexiform. Radiographically, ameloblastoma appears as a unilocular or multilocular radiolucent lesion. The multilocular radiolucent lesions commonly exhibit a ‘soap bubble’ or ‘honeycomb’ appearance.8

We hereby report a case of follicular ameloblastoma in a 55-year-old male patient with emphasis on correlation between histological findings and clinical behavior of lesion.

CASE REPORT

A 55-year-old male patient reported with a complaint of swelling on the right side of jaw since 1 year. Initially, the swelling was small in size which gradually increased and reached to the present size of 3.0 × 4.0 cm within a span of 1 year. It was painful but without any pus discharge. Patient had no relevant family history and had a habit of smoking 6 to 7 bidis per day since 30 years. On clinical examination, the patient was moderately built and well nourished with all the vital signs within a normal range. Extraorally, the swelling was seen on right side of mandible extending from corner of mouth to the body of mandible. On intraoral examination, buccolingual expansion was visible in tooth 43 to 48 region along with involvement of alveolus and buccal vestibule. The color of the overlying mucosa was normal. The swelling was firm in consistency and tender on palpation. Based on all these clinical findings, a provisional diagnosis of ameloblastoma was made.

The patient was subjected to routine radiographic examination. Orthopantomogram revealed a multilocular radiolucency measuring about 4.0 × 3.0 cm in size with soap bubble appearance extending from distal aspect of tooth 43 to retromolar pad area. Incisional biopsy was performed and the biopsy sample was obtained from the right buccal vestibule for histopathological analysis.

Histopathological picture showed multiple pieces of tissue showing ameloblastomatous odontogenic epithelium proliferating in form of follicles and islands within fibrous connective tissue stroma (Fig. 1A). Under higher magnification, it was observed that the follicles were lined peripherally by tall columnar cells with dark hyperchromatic nucleus arranged in palisaded pattern. The nucleus was elongated and shifted away from the basement membrane (suggestive of preameloblasts) (Fig. 1B). In center of some follicles, angular and star-shaped...
cells suggestive of stellate reticulum like tissue was also appreciated. In some follicles, the few of the central cells were polyhedral in shape. Squamous metaplasia along with keratin formation and microcyst formation was also evident in only some follicles. The connective tissue stroma comprises of loose to dense bundles of collagen fibers with plump to spindle shaped fibroblasts. Based on clinicopathological correlation, a diagnosis of follicular variant of ameloblastoma was made.

**DISCUSSION**

Ameloblastoma represents 1% of all tumors and cysts that involve the jaws and about 10% of all odontogenic tumors. It is known for having leisurely enlargement along with frequent recurrence. Follicular ameloblastoma is characterized by highest recurrence rate (29.5%) as compared to other variants of ameloblastoma. The average age at the diagnosis is 33 to 39 years and most patients ranged between ages 20 and 60 years. Males are affected more than females. About 80% of the tumors occur in the mandibular molar region. In present case, 55 years old male patient was having swelling in molar ramus area of the mandible. Follicular ameloblastoma presents as a painless swelling with slow expansion of the jaws, and it is typically described as multilocular radiolucency with soap bubble or honey comb appearance. This classic finding was also confirmed in the present case. According to Claudin et al, the majority of the patients of ameloblastoma are asymptomatic and symptoms appear with tumor expansion. Tumor involves both the buccal and lingual cortical plates. Bone tends to expand with growth of tumor and the roots of the teeth in the affected area shows resorption. In the case reported here, the patient was having pain and swelling on right side of mandible involving molar ramus area showing buccal cortical plate expansion and slight lingual cortical plate expansion. No root resorption was noticed.

Histopathology of follicular ameloblastoma reveals the covering epithelium comprising of columnar or cuboidal cells with nuclei positioned opposite the basement membrane resembling internal dental epithelium or preameloblasts. The peripheral layer of tall columnar cells shows hyperchromasia, reverse polarity of the nuclei and subnuclear vacuolation. These classic features of ameloblastoma were described by Vickers and Gorlin. The islands consist of a central mass of polyhedral cells, or loosely connected angular cells resembling stellate reticulum. Cystic degeneration commonly occurs within the epithelial islands. The histopathologic features observed in the present case are also similar and consistent to the above mentioned data. Prominent microcystic degeneration was also seen. One more variant of ameloblastoma, i.e. the plexiform type can also be found with or without the follicular component. Plexiform variant commonly demonstrate long, anastomosing cords or larger sheets of odontogenic epithelium. Cyst formation is also less common in plexiform variety. The choice of treatment in case of follicular ameloblastoma ranges from simple enucleation and curettage to en bloc resection. Since, follicular ameloblastoma has high rate of reoccurrence there should be follow-up of 5 to 10 years.

**CONCLUSION**

Follicular ameloblastoma is an aggressive odontogenic tumor with high rate of reoccurrence than any other histological variety of ameloblastoma. Cases of ameloblastoma should thus be investigated cautiously, comparing their histologic prototype with biologic behavior to detect delicate changes in histology that may foresee violent behavior. So, choice of treatment should be made...
after clinicopathological correlation and early surgical intervention with proper follow-up is recommended.

REFERENCES