CASE REPORT

Granular cell ameloblastoma: A case report with a brief note on review of literature

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Abstract Ameloblastomas are tumours of odontogenic epithelial origin with varied microscopic patterns that occur either singly or in combination. Granular cell pattern is rarely seen in ameloblastoma, and is characterised by nests of large eosinophilic granular cells. This article describes a case of granular cell ameloblastoma in a 29 year old male patient with clinical, radiology and histological findings along with a short on review of literature.

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1. Introduction

Odontogenic tumours are lesions derived from the epithelial or mesenchymal remnants of the tooth forming apparatus.1 Ameloblastoma, the tumour that meets today’s diagnostic criteria for solid/multicystic ameloblastoma (SMA) has been known for about 180 years.2 The ameloblastoma is a benign but locally invasive tumour and accounts for about 11% of all odontogenic tumours in Caucasians.3 Granular cell ameloblastoma is a rare variant of ameloblastoma that histopathologically has numerous large granular cells. These usually form the central mass of epithelial islands and cords.4 In this case report we have presented a rare histological variant of ameloblastoma: Granular cell ameloblastoma.

2. Case report

A 29-year old patient reported to outdoor patient department with a history of swelling in the lower 1/3rd of the face in the front region since two months. A swelling appeared insidiously in the lower left back tooth region two years back about the size of peanut and thereafter gradually it has increased to the present size approximately (10×5 cm) and has increased rapidly in the last months. No associated pain, no facial paralysis, no paraesthesia or anaesthesia and no palpable regional lymphadenopathy were present.

Extra oral examination revealed the facial asymmetry in the lower 1/3rd of face (Fig. 1). The swelling was present in the anterior mandible and extended about 3 cm behind the angle of the mouth on both sides. Swelling was approximately 8×5 cm in size with smooth surface and colour of skin over the swelling was normal. On palpation, a firm mass was felt

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except parasymphysis where it was hard and tender. Intra orally, swelling was extending from right mandibular 1st premolar to left mandibular 1st molar and obliteration of the buccal and labial vestibule was noted in the involved site. (Fig. 2) Buccally swelling was firm to hard and slightly tender, lingually swelling was bony hard, non tender and no secondary changes were noted.

Routine biochemical and haematological investigations were within normal limits. Panoramic view revealed the multilocular radiolucent lesion extending from distal root of mandibular right 2nd molar to left mandible left 2nd molar mesial root. (Fig. 3) Following this the incisional biopsy was planned for the patient and histopathology report showed the sections exhibiting the odontogenic epithelium present in the form of islands, cords and few follicles in a connective tissue stroma. Odontogenic islands showed peripherally arranged tall columnar cells surrounding the granular cells (Fig. 4). Granular cells exhibited abundant cytoplasm filled with eosinophilic granules (Fig. 5). Features were suggestive of Granular cell ameloblastoma.

The case was managed by intra oral surgical removal of the tumour mass under general anaesthesia. Post operatively the healing was uneventful and no recurrence was reported.

3. Discussion

The ameloblastoma is a benign odontogenic tumour located almost exclusively in the jaws. It has a distinctive microscopic appearance characterised by the presence of peripheral columnar cells with hyperchromatic, reversely polarised nuclei, arranged in a palisaded pattern. Several microscopic subtypes of the ameloblastoma, especially of its solid/multicystic variant, are recognised, although these microscopic patterns generally have little bearing on the behaviour of tumour. Large tumours often show a combination of microscopic patterns. The follicular and plexiform patterns are the most frequent. Less common histopathologic subtypes include the acanthomatous, granular cell, desmoplastic, and basal cell. Although the treatment and prognosis are virtually the same (with the possible exception of more aggressive desmoplastic variant), knowledge of various histopathologic subtypes is a prerequisite for accurate diagnosis and management.

Granular cell ameloblastoma is a rare variant of ameloblastoma which accounts for only 5% of all ameloblastomas as...
The differential diagnosis of granular cell ameloblastomas includes other oral lesions with a similar morphology of granular cell accumulation, including granular cell odontogenic tumour, granular cell tumour and congenital epulis. These lesions have different biologic behaviours and should be discriminated from granular cell ameloblastomas.\textsuperscript{12}

References