EDITÖRE MEKTUP / LETTER TO THE EDITOR

Granular cell variant of ameloblastoma

Ameloblastomanın granüler hücre varyantı

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Dear Editor,

Ameloblastoma is a benign odontogenic tumor of epithelial origin showing various histological patterns. Granular cell ameloblastoma (GCA) is a rare variant accounting for 3.5% of all ameloblastomas, characterized by groups of granular cells which have abundant cytoplasm filled with eosinophilic granules resembling lysosomes, ultrastructurally and histochemically. GCA is thought to behave more aggressively with a greater tendency to metastasize. However, no correlation has been found between histological subtype and clinical behavior. We present a case of granular cell ameloblastoma in a 43 year old male.

Ameloblastomas are benign tumors whose importance lies in its potential to grow into enormous size with resulting bone deformity¹. They are classified as solid multicystic, unicystic, desmoplastic and peripheral. Granular cell ameloblastoma (GCA) is a histological subtype of solid multicystic ameloblastoma characterized by the presence of granular cells occurs within the central area and replaces stellate reticulum like cells².³. Granular cell changes have been thought to represent aging or degenerative change⁴. Some authors have suggested that lysosomes might play a role of autophagy and of remodeling the cytoplasm⁵. Numerous theories have been proposed on the origin and nature of these granular cells in ameloblastoma².

We present a case of solid multicystic ameloblastoma of mandible in a 43 year old male which was histologically diagnosed as GCA. An otherwise normal 43 year old male presented to the department of Oral Medicine and Radiology with the chief complaint of painful swelling on his left side of lower jaw since 8 months. Family history and past medical history were non-relevant to the presented symptom. Extra oral examination revealed a localized, large swelling on the left side of the face without any perforation or discharge. On intra-oral examination, a well-defined swelling extending from #33 to #36 was noted. On palpation, the swelling was found to be firm to hard. The color of overlying mucosa was normal without any sign of ulceration. Panoramic radiograph revealed a well-defined multilocular radiolucent lesion extending from the tooth #37 to #45. Tooth #46 was missing. (Figure 1) Provisional diagnosis of ameloblastoma was given.

Incisional biopsy was done to reach the final diagnosis. Histopathological examination revealed ameloblastomatous follicles within connective tissue stroma with peripherally located tall columnar cell and centrally located stellate reticulum like cells².³. Granular cell changes have been thought to represent aging or degenerative change⁴. Some authors have suggested that lysosomes might play a role of autophagy and of remodeling the cytoplasm⁵. Numerous theories have been proposed on the origin and nature of these granular cells in ameloblastoma².

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ameloblastoma, characterized by granular transformation of cytoplasm usually occurring in stellate reticulum like cells. Granular cells tend to be large and have an oval to polyhedral outline. 2

GCA once considered as the most aggressive variant of ameloblastoma but recent studies have shown that earlier belief was a myth. 6 The granular cells are epithelial in origin and several ultrastructural studies describe them as lysosome. Few authors suggested that with age, the aged component progressively increased in the cytoplasm of tumor cells; however their ability to dispose the material decreases, hence their cytoplasm packed with lysosomal granules. 7 Other authors suggested that these lysosomes might have been a result of genetic alteration. 8 Recent immunohistochemical studies reveal the proliferation index of granular cells of GCA is the least among all variants of ameloblastoma. 5 The positive expression of proteins like cytokeratin, CD 68, lysozyme and alpha - 1 antichymotripsin to the granular cells of GCA showed that the granular cells are epithelial in origin. 4 Complete surgical excision with a careful follow up is mandatory owing to the recurrence rate of ameloblastoma. 2

REFERENCES