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Case Report

Acinic cell carcinoma of parotid with predominant follicular pattern mimicking follicular neoplasm of thyroid

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ABSTRACT

Acinic Cell Carcinoma (ACC) was previously called acinic cell tumor and it is a neoplasm demonstrating cytological differentiation towards serous acinar cells. The histological architecture of ACC is diverse and classification consists of various histological subtypes. This is a case of acinic cell carcinoma of parotid gland in a 45 years female patient which showed predominant follicular variant of ACC. It is a least frequent variant of ACC occurring in only 5% and it mimics follicular neoplasm of thyroid

Keywords: Acinic cell carcinoma, Follicular variant, Recurrence

INTRODUCTION

Salivary gland tumors comprise 0.3-0.9% of all tumors and ACC accounts for 6% of all salivary gland tumors. Follicular variant of ACC occurs in only 5%.[1]

The most common sites of ACC is parotid gland (84%) and submandibular gland (4%) followed by buccal mucosa, upper lip, and palate.[2]

The histological architecture of ACC is diverse, and Abrams et al.[3] have proposed a classification consisting of five histological subtypes which are solid pattern, microcystic pattern, papillary-cystic pattern, follicular pattern and adenomatous pattern. Follicular variant of acinic cell carcinoma is least frequent variant and it is characterized by follicles containing eosinophilic colloid like material with striking resemblance to thyroid follicles. Recurrences are common in ACC occurring in about 35% of tumors.[1]

CASE REPORT

This is a case of 45 years female who presented with swelling in the parotid region hard, immobile and painless (Figure 1). Patient had history of surgery for similar swelling in the same region one year back but the details of the surgery and the pathological examination were not available. On fine needle aspiration of the swelling smears showed cells arranged in clusters and sheets and papillary fronds and some cells were arranged discretely and in microacinar pattern, there were few stromal fragments traversed by thin walled dilated blood vessels. Individual cells had moderate eosinophilic cytoplasm and round to oval nuclei with mild anisonucleosis. The possibility of adenocarcinoma not otherwise specified or acinic cell carcinoma was considered (Figure 2 & 3). Total parotidectomy was done we received 5x3x2 cm and 2x1x1 cm masses with surface nodularity. Cut section - lobulated and grey white. Histological examination of the specimen shows normal salivary gland and tumour composed of sheets of cells

arranged in follicular pattern with central eosinophilic material resembling thyroid follicles, cystic areas and papillary formations with predominant follicular pattern. The tumor cells were round with moderate amount of cytoplasm and pleomorphic vesicular nuclei (Figure 4, 5 & 6). This was diagnosed as follicular variant of acinic cell carcinoma of salivary gland.

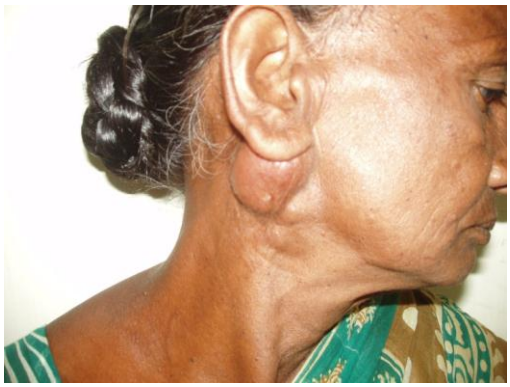

Figure 1: Clinical photograph showing 4x3 cm swelling in parotid region, hard painless and immobile. An old scar of previous surgery seen.

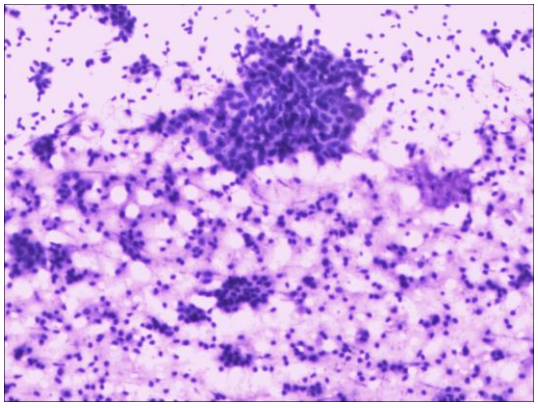

Figure 2: Cellular smear with cells arranged in clusters and microacinar pattern with many stripped nuclei (H&E 100x).

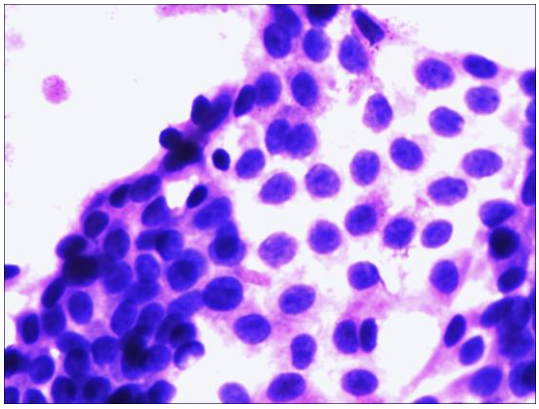

Figure 3: Cells round to oval medium sized with bland chromatin and abundant fragile, finely vacuolated cytoplasm (H&E 400x).

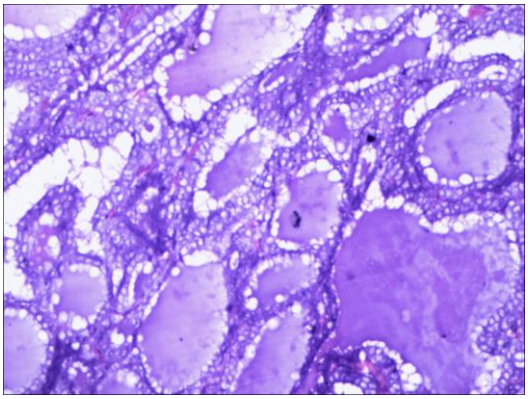

Figure 4: Photomicrograph showing tumor with predominant follicular arrangement with central eosinophilic material (H&E 100x).

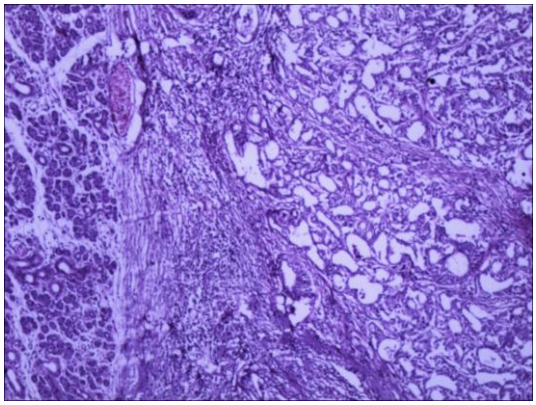

Figure 5: Photomicrograph showing normal salivary gland tissue with adjacent tumor showing microcystic pattern of arrangement (H&E 100x).

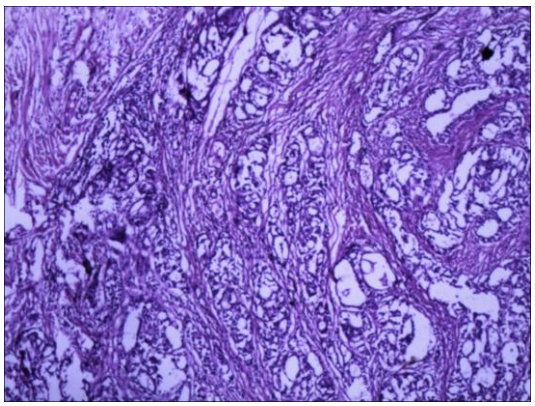

Figure 6: Photomicrograph showing tumor infiltration into adjacent tissue (H&E100x).

DISCUSSION

Acinic cell carcinoma is also called acinic cell adenocarcinoma and is defined as a tumor that has differentiated from cells resembling serous acinar cells in a normal salivary gland. ACC is further characterized by cells containing cytoplasmic granules (zymogen

granules) that are positive in diastase-treatment PAS staining and negative in mucicarmine staining.[2,3]

There is marked variability in architecture and appearance of tumor. Abrams et al.[2] have proposed a classification consisting of five histological and five cell subtypes. The histological subtypes are (1) solid pattern, (2) microcystic pattern, (3) papillary-cystic pattern, (4) follicular pattern and (5) adenomatous pattern. Similarly, the cell subtypes are (1) acinar cells, (2) intercalated ductal cells, (3) vacuolated cells, (4) clear cells, and (5) nonspecific glandular cells. The present patient had follicular variant of acinic cell carcinoma. This variant of acinic cell carcinoma is least frequent and comprise multiple closely packed round cystic spaces filled with homogenous eosinophilic colloid like material resembling thyroid follicles. The colloid like material is highly PAS positive and diastase resistant, the follicles are lined by intercalated duct like cells and nonspecific glandular cells.[4] Thyroglobulin immunostaining is used to differentiate acinic cell carcinoma from thyroid neoplasm. Although it is important to recognize this morphologic spectrum, sub-classification based on cell type and architecture appears to have no prognostic value and usually several patterns are often present in the same tumor.[5]

Acinic cell carcinoma is a well-differentiated tumor that typically lacks overt cytologic features of malignancy. Immunohistochemical stains using antibodies against amylase or antichymotrypsin will highlight acinar differentiation. Myoepithelial markers are typically absent.[5] Ultrastructurally the tumor cells show multiple, round, variably electron dense, cytoplasmic secretory granules characterize acinar type cells. The number and size of the granules varies. Rough endoplasmic reticulum, numerous mitochondria, and sparse microvilli are also typically seen.[6]

Recurrences are common in acinic cell carcinoma occurring in 35% of the tumors and this tumor has a metastatic rate and death of about 16% which is associated with poor prognosis.[1]

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REFERENCES

1. Paul L. Auclair, Garry L. Ellis, M. W. Stanley. Major and minor salivary glands. In: Paul L. Auclair, Garry L. Ellis, M. W. Stanley, eds. S. G. Silverberg, Principles and Practice of Surgical Pathology and Cytopathology. 4th ed. Philadelphia: Churchill Livingstone; 2006: 1233-4.
2. G. L. Ellis, P. L. Auclair. Tumors of the salivary glands. In: G. L. Ellis, P. L. Auclair, eds. Atlas of Tumor Pathology. 3rd ed. Washington, DC, USA: Armed Forces Institute of Pathology; 1996: 183-203.
3. A. M. Abrams, J. Cornyn, H. H. Scofield, L. S. Hansen. Acinic cell adenocarcinoma of the major salivary glands. A clinicopathologic study of 77 cases. Cancer. 1965;18:1145-62.
4. W. Cheuk, J. K. C. Chan. Salivary gland tumors. In: Fletcher CDM, eds. Diagnostic Histopathology of Tumours. 2nd ed. New York: Churchill Livingstone; 2003: 272-3.
5. Mills SE. Salivary glands. In: Mills SE, eds. Sternberg's Diagnostic Surgical Pathology. 5th ed. Philadelphia, PA, USA: Lippincott Williams and Wilkins; 2010: 839-40.
6. J. W. Eveson, P. Auclair, D. R. Gnepp, A. K. El-Naggar. Tumors of salivary glands. In: Leon Barnes, John W. Eveson, Peter Reichart, David Sidransky, eds. Pathology & Genetics Head and Neck Tumours. 1st ed. Geneva: World Health Organization, Lyon, IARC; 2005: 216-7.

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