



Oncocytic carcinoma of parotid gland - a case report.

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ABSTRACT

Oncocytic carcinoma (OC) is an unusual proliferation of cytomorphologically malignant oncocytes and adenocarcinomatous architecture phenotypes mainly found in glandular tissue, accounting for 0.5% of all epithelial salivary gland malignancies and 0.18% of all epithelial salivary gland tumors. The terms oncocytic carcinoma, oncocytic adenocarcinoma, malignant oncocytoma and malignant oxyphilic adenoma are synonymous. The majority of OC cases have occurred in the parotid glands, but tumors that involved the submandibular gland and minor glands of the palate have also been described. We present a case of Oncocytic carcinoma of parotid gland in a 60 year old female who underwent superficial parotidectomy.

KEYWORDS : oncocytes, oncocytic carcinoma, parotid

INTRODUCTION:

Oncocytic carcinoma (OC) is an unusual proliferation of cytomorphologically malignant oncocytes and adenocarcinomatous architecture phenotypes mainly found in glandular tissue,^[1] accounting for 0.5% of all epithelial salivary gland malignancies and 0.18% of all epithelial salivary gland tumors. The terms oncocytic carcinoma, oncocytic adenocarcinoma, malignant oncocytoma and malignant oxyphilic adenoma are synonymous. Its malignant nature is distinguished from oncocytoma by abnormal morphological features and infiltrative growth.^[2] Necrosis, peri-neural spread, pleomorphism, intravascular invasion, and distant metastasis to the cervical lymph nodes, kidneys, lungs, and mediastinum are the main features of this high-grade malignant tumor.^[1] This tumor represents 5% of all oncocytic salivary gland neoplasms and less than 1% of all salivary gland tumors.^[3] The majority of OC cases have occurred in the parotid glands, but tumors that involved the submandibular gland and minor glands of the palate have also been described.^[4] We present a case of Oncocytic carcinoma of parotid gland in a 60 year old female because of its rarity.

CASE REPORT:

A 60 year old female patient presented with swelling of right parotid of 1 year duration. Clinical examination showed 8 x 4 x 4 cm right parotid mass. Superficial parotidectomy was done and the excised specimen was sent for histopathological examination.

Pathological findings:

We received a gray-tan nodular, firm mass of 7 x 4 x 3 cm. size. Cut section is predominantly solid with multiple gray-tan to gray-brown nodules ranging in sizes from 0.5cm to 2cm diameter. There are also yellowish areas suggesting necrosis. (Image-1)

Microscopy showed sheets and nests of infiltrating oncocytic cells exhibiting mild nuclear pleomorphism with nucleoli. There is capsular invasion, along with areas of infarction and necrosis. The tumor is infiltrating into adjacent connective tissue (Image-2,3,4). With these microscopic features a histopathological diagnosis of Oncocytic carcinoma was made.

DISCUSSION:

The term "oncocyte" was first used by Hamperl^[6] in 1931 to describe cells with abundant, finely granular and eosinophilic cytoplasm. The terms "oncocytoma" and "oncocytic carcinoma" are commonly used to designate tumors - benign and malignant - consisting of oncocytic cells. OCs are malignant onco-

cytic neoplasms, which may have general malignant features such as cellular atypia, pleomorphism, large irregular nuclei, invasive growth, and perineural invasion.^[5] The most reliable histological criterion for the diagnosis of OC was not the cytological atypia of oncocytes but the invasive growth pattern. c-kit and/or p53 overexpression might be helpful ancillary markers and may represent possible involvement of these genes in oncocytic carcinogenesis. Oncocytic carcinoma can be differentiated from benign oncocytoma by the presence of a connective tissue capsule in the latter. Moreover, compared to oncocytoma, oncocytic carcinoma usually shows a greater mitotic activity and more nuclear pleomorphism. Acinic cell adenocarcinoma can be differentiated from oncocytic carcinoma since its cytoplasmic granules are amphophilic or basophilic. Moreover, the patterns of growth in acinic cell adenocarcinoma can be microcystic or papillary and the neoplastic elements are negative for mitochondrial antigen when examined immunohistochemically. Salivary duct carcinoma, in contrast to oncocytic carcinoma, forms duct-like spaces with papillary and cribriform growth and also shows comedonecrosis.^[7] The non-neoplastic proliferation of a salivary gland, which can mimic oncocytic carcinoma is oncocytosis. This lesion is a condition that predominantly affects adults over the age of 60 years, and can be differentiated from malignant oncocytoma by the presence of variably sized foci of oncocytic cells within glandular lobules without altering the normal architecture of the gland.^[7] Primary oncocytic carcinoma of the salivary glands should also be differentiated from metastatic oncocytic carcinomas to the salivary glands from a precise clinical history, revealing the previous primary neoplasm and by specific immunohistochemical studies. Metastatic oncocytic carcinoma of the thyroid (Hürthle cell carcinoma) can be diagnosed because of the immunohistochemical expression of thyroglobulin.^[8]

In our case, the malignant nature of the neoplasm was evidenced by the presence of infiltrating sheets of oncocytes, areas of necrosis and by capsular invasion. No regional or distant lymph node metastases clinically or radiologically were observed. Patient is on follow up.

CONCLUSION:

Oncocytic Carcinoma is an extremely rare malignancy in salivary glands, and prognosis is unclear. Clinicians should perform a careful follow-up, as distant metastasis is the most important prognostic feature.

IMAGES

IMAGE-1 – A gray-tan nodular mass on cut section is predominantly solid with multiple gray-tan to gray-brown nodules and yellowish areas suggesting necrosis.

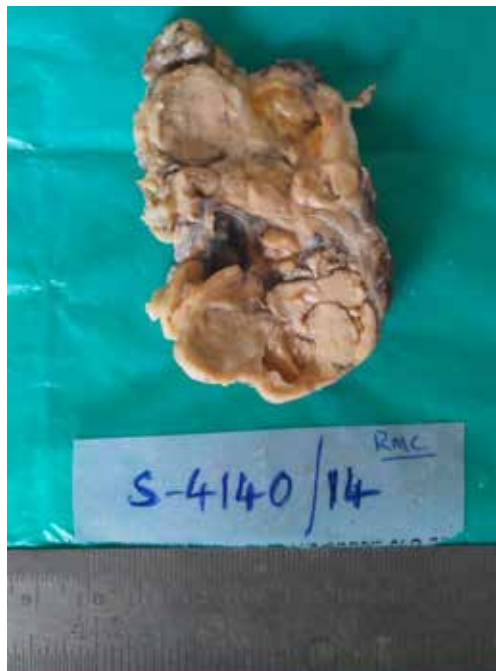


IMAGE – 2 - Oncocytic carcinoma parotid showing capsular invasion

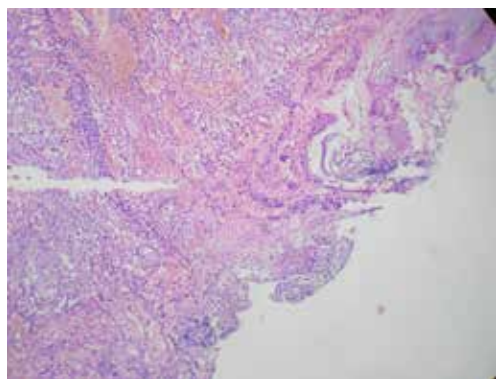


IMAGE – 3 – Tumor cells seen in nodular pattern.

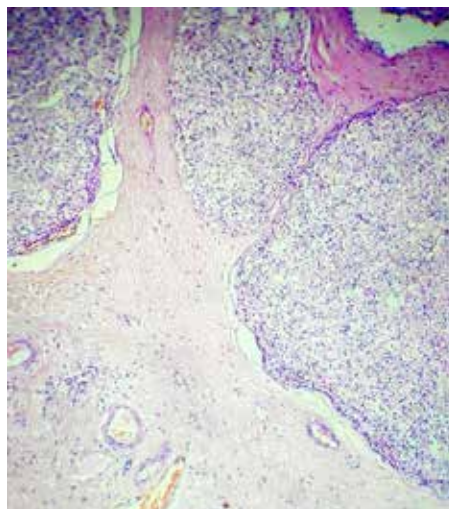
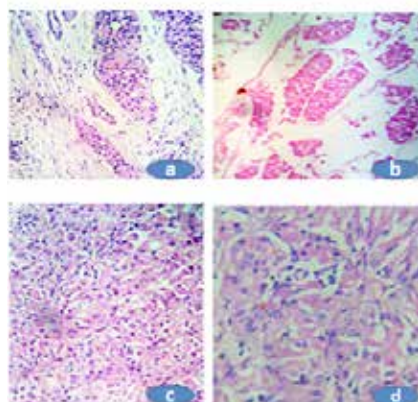


IMAGE- 4



Microscopic images of oncocytic carcinoma
 (a) invading the adjacent connective tissue in sheets
 (b) areas of necrosis and
 (c) nests of oncocytes with
 (d) nuclear pleomorphism

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