

## Bilateral Oncocytoma of the Parotid Gland - A Rare Case Report

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**Abstract:** We report the case of a 59-year old female patient presented in RIMS ENT-OPD with the chief complaints of bilateral swellings on the left and right side of the neck. Imaging studies revealed multiple nodular lesions in the parotids with involvement of deep lobe. Both the superficial and deep lobes were involved. Subsequently, a biopsy confirmed the presence of an oncocytoma. The patient was treated with total parotidectomy on right side, which was performed 1 year back and on left side 2 months back. At present, the patient is disease free and has no complications.

**Key Words:** Computed tomography, Parotid gland, Swelling, Oncocytoma

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### I. Introduction

Oncocytomas are benign epithelial tumors that most commonly occur between the fifth to sixth decades of life with a slightly higher incidence in women. They often present as solitary slow growing painless masses, which are firm, multilobulated and mobile entities upon clinical examination [1]. The cells and the tumor that they compose are often benign but sometimes may be premalignant or malignant [2]. The salivary gland oncocytoma is a well circumscribed, encapsulated benign neoplastic growth also called an oxyphilic adenoma. It comprises about 1% of all salivary gland tumors. The histopathology is marked by sheets of large swollen polyhedral epithelial oncocytes, which are granular acidophilic parotid cells with centrally located nuclei and abundant hyperplastic mitochondria.

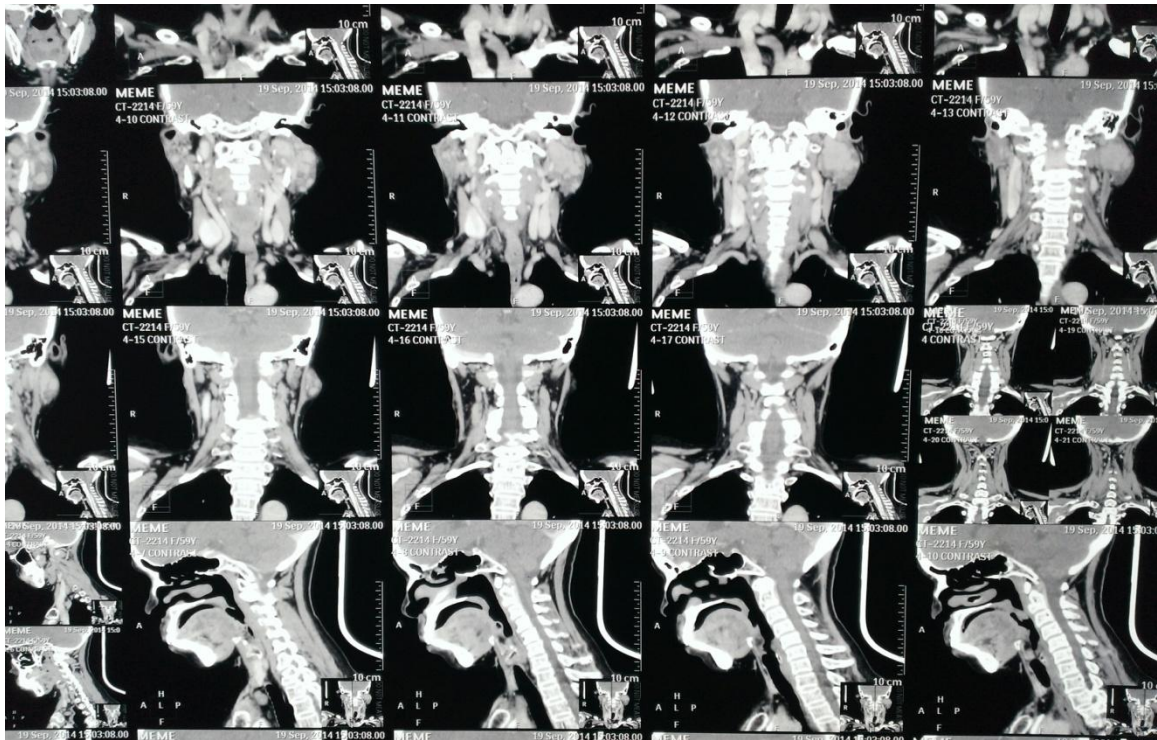
Computed tomography (CT) and magnetic resonance imaging (MRI) are the imaging modalities of choice, and on CT, the most common finding is a well-defined homogeneous parotid mass. On MRI, these tumors appear hypodense on T1 and T2 sequences. The preferred treatment is complete surgical excision and total parotidectomy. In addition, a follow-up MRI at 12 and 24 months is recommended to assess patient progression[1].

### II. Case Presentation

A 59-year old female presented in RIMS ENT-OPD with the chief complaints of bilateral swellings on the left and right side of the neck. The duration of the swelling on the left side is since 1 and 1/2 years and on the right side of the neck is for 3 months in the parotid region. Total Parotidectomy on right side was performed 1 year back and on left side 2 months back in RIMS.

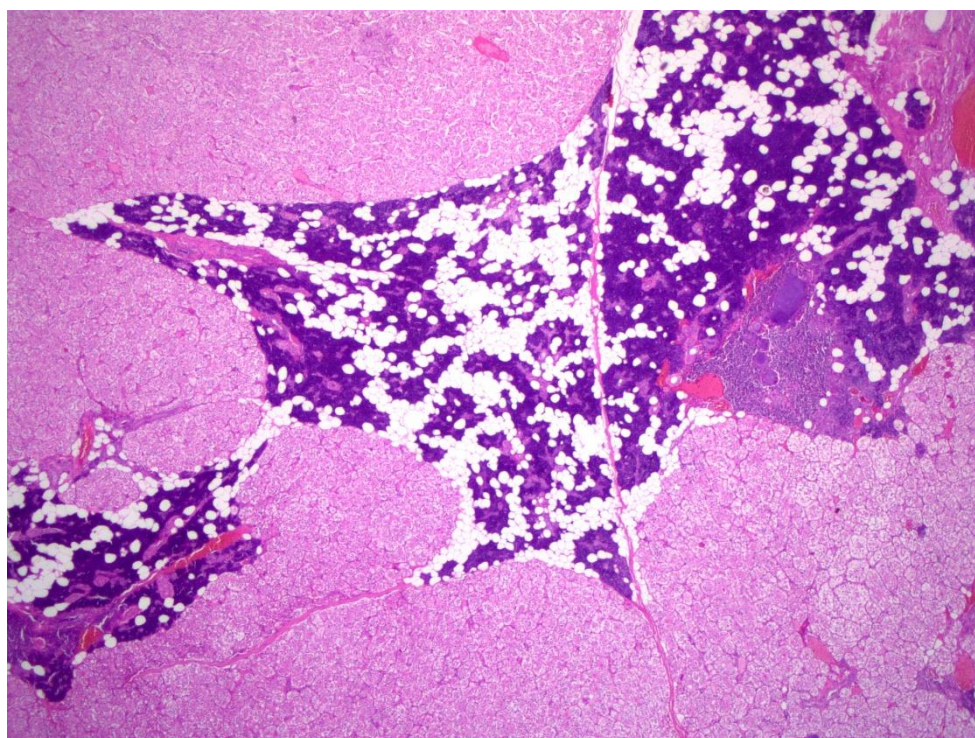
Her medical history was not remarkable; she had no pain or cutaneous inflammatory reaction. No history of fever was present. The swelling gradually increased in size. On examination, the patient's general condition was good. Local examination revealed a swelling in the parotid region which was solitary, firm, non-tender, of size 4 X 3 cm on both sides. The swelling had smooth surface, regular margins, freely mobile, lying in the subcutaneous plane.

CT imaging study was performed to identify the nature of the swelling. CECT neck revealed multiple nodular lesions in the parotids with involvement of deep lobe. Both the superficial and deep lobes were involved (Fig. 1). No lymph nodes were involved. There was a swelling arising from the left parotid extending lower down demonstrating well circumscribed enhancing masses.



**Figure 1:** CECT neck showing bilateral well defined homogenous opacities in the parotid

Blood and urine investigations were normal. A fine needle aspiration cytology was done which was suggestive of oncocytoma. Histopathology exam shows diffuse nodular oncocytosis with focal clear cell change. Multiple sections studied show parotid tissue displaying multiple unencapsulated well circumscribed nodules composed of uniformly sized acinar structures in back to back arrangement separated by thin Fibro-collagenous septae lined by cells having abundant eosinophilic granular cytoplasm and round or oval vesicular nucleus. Histologic examination showed epithelial cell proliferation. Cells were characterised by small round nuclei and microgranular, eosinophilic cytoplasm. A mitotic count was negative. The mass was surrounded by a thin fibrous capsule. These findings were consistent with oncocytoma of the parotid gland (Fig. 2).



**Figure 2:** HE Stain

Following the results of the tests, it was decided that surgical excision was the best treatment with total parotidectomy, complete tumor resection and facial nerve preservation (Fig.4). At present, the patient has remained disease free with no signs of recurrence.

### **III. Surgical Procedure**

Total Parotidectomy on right side performed 1 year back and on left side 2 months back. After intubation, the patient was positioned with face towards right, neck extended and head up position. A transverse incision was made over the swelling. On dissection, a well encapsulated swelling was noted in subplatysmal plane easily separable from surrounding tissue. On dissection, the upper limit was found extending close to the left parotid to which the swelling was connected by a vascular pedicle (Fig. 3). The pedicle was ligated and divided. The swelling was removed (Fig. 4) and sent for histopathological examination. Postoperative recovery was uneventful. Histopathology exam shows diffuse nodular oncocytosis with focal clear cell change. Follow up after every 3 months. Recent follow up shows no recurrence.



**Figure 3:** Showing swelling connected by a vascular pedicle



**Figure 4:** Completed tumor resection and facial nerve preservation.

During the follow-up period, no cervical lymph nodes were detected on repeated CTs and the patient remains disease free.

#### **IV. Discussion**

Salivary gland tumours account for 2 to 4% of head and neck tumours. 75% of these tumours arise from the parotid gland, followed by submandibular and other glands. About 80% of parotid gland tumours are benign as compared to submandibular (50%benign) and minor salivary (20% benign) glands. Pleomorphic adenomas are the most common benign tumours of salivary glands [2].

Oncocytoma, also known as oxyphil adenoma is an uncommon benign tumour accounting for 1% of all benign tumours of the parotid. Oncocytomas usually occur in the elderly and affect the parotid glands in 80% [3]. Bilateral oncocytoma is reported to be extremely rare, accounting for 7% of these cases [4]. Diagnosis is assisted by CT and/or magnetic resonance imaging (MRI) of the neck, although histopathologic confirmation is necessary. However, in a recent report, CT findings were correlated to histopathologic features [5].

The clinical presentation of oncocytomas is essentially identical to other benign salivary tumors that present as a solitary slow growing painless mass. They are firm, may be multilobulated and mobile on examination [1]. They are classified according to the new World Health Organization (WHO) classification, and histologically there are three distinct types, namely oncocytosis, oncocytoma and oncocytic carcinoma [6]. Histologically, they are characterised by uniformly spherical and large cells (oncocytes) arranged in solid sheets.

CT and conventional MRI (using T1- and T2-spin-echo sequences) are presently the image modalities of choice used in the evaluation of both palpable and non-palpable neck lesions [1]. This tumour is usually found after 50 years of age, with female and male ratio of 2:1. These tumours are mostly found in the superficial lobe of the parotid gland.

Complete surgical excision with radical or superficial parotidectomy are the treatments of choice [2, 6]. The extent of the excision is dictated by preoperative clinical and radiological (CT, MRI) examinations and intraoperative findings [6]. In addition, radiotherapy may play an important role in the management of locally advanced, unresectable or recurrent salivary gland cancers when surgery is not feasible. The recurrence rate has been reported to be 20–30% in incomplete excision or multi nodularity cases. Malignant differentiation and metastasis are rare [2].

#### **V. Conclusion:**

This case is being presented because of its rare presentation and finding. All the reported cases of parotid oncocytomas had arisen from the superficial lobe. Our case is peculiar in that the swelling arise from deep lobe. Clinically these swellings cannot be distinguished from other tumours and diagnosis is mainly by histopathological examination. Excision is the treatment of choice and incomplete excision results in recurrence. Oncocytic neoplasms should be considered as a possible diagnosis in patients with parotid enlargement. Due to the lack of large series, assiduous study of the cases reported in the literature may lead to better understanding of this rare disease. Radioactive iodine has also been shown to have an effect on large and recurrent oncocytomas.

#### **CONSENT**

Written informed consent was obtained from the patient for publication of this case report and accompanying image.

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