

## Oncocytoma of the Parotid Gland: A Rare Case Report

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**Abstract:** Oncocytomas are rare epithelial neoplasms of the salivary glands, composed of oncocytes, which are large cells with granular eosinophilic cytoplasm that contains excessive and atypical mitochondria and round to oval vesicular nuclei. They commonly involve the parotid glands. Incidence is 0.5%- 1.5% and they have been correlated to various viral infections. FNAC is increasingly being used in the diagnosis of these salivary gland lesions, but becomes challenging because of similar histology between various lesions. We report a case of oncocytoma of the parotid gland in an elderly female who underwent superficial parotidectomy.

**Keywords:** Oncocytoma, Parotid gland tumor, Cytology, Superficial parotidectomy.

### INTRODUCTION

Oncocytic neoplasms are a group of rare tumours of the parotid glands [1]. The term oncocytoma was introduced first by Jaffe in 1932 [2]. Oncocytomas are benign epithelial tumors seen in elderly in their sixth to eighth decades [3]. Incidence is between 0.5%-1.5% among all salivary gland tumors [4-7]. There is no sex predilection as such [8]. Histologically, they are composed of monotonous sheets of oncocytes, epithelial cells characterized by an intensely eosinophilic and granular cytoplasm. By the process of these metabolically altered epithelial cells accumulate atypical mitochondria in the cytoplasm [9].

The parotid gland is the most common site of salivary gland oncocytoma (78%-84%) [9]. Oncocytic features may be seen in tumors that include pleomorphic adenoma, mucoepidermoid carcinoma, and rarely acinic cell tumors, salivary duct carcinoma and the uncommon oncocytic papillary cystadenoma. Diagnostic pitfalls in FNAC have been well documented in the literature [10].

For the assessment of major salivary gland tumors CT is one of the established first-line imaging technique [9]. In less affordable patients, USG can be the preferred modality of imaging. Surgical resection is the treatment of choice and allows histopathological confirmation too. We hereby present a case report of an elderly female diagnosed with pleomorphic adenoma in

FNAC but later turned out to be an oncocytoma following histopathology of superficial parotidectomy specimen.

### CASE REPORT

A 60 year old female patient presented to the ENT OPD with a painless swelling below her left ear lobe since 6 months. On examination, it was a firm non-tender lobulated mass about 3x3 cms (Fig. 1). Facial nerve examination was normal. Differential diagnosis of pleomorphic adenoma and Warthin's tumour was made clinically. USG left parotid revealed a hypochoic well defined mass in the superficial lobe of parotid. FNAC was suggestive of pleomorphic adenoma. Patient was posted for superficial parotidectomy under general anesthesia. The lesion excised completely and sent for histopathology (Fig. 2, 3). Macroscopy revealed globular lesion measuring 6x5x1 cms with grey white cut surface, predominantly solid and tiny cystic areas. Microscopically it was composed of large polygonal cells with ill-defined borders and abundant granular eosinophilic cytoplasm and round to oval vesicular nuclei. The cells were arranged in sheets and trabecular patterns. A few cystically dilated spaces with intraluminal eosinophilic mucoid secretions are also seen (Fig. 4). With the above histological features the diagnosis of oncocytoma of parotid gland was made out.



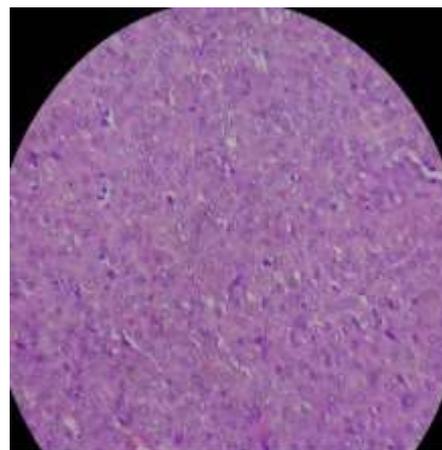
**Fig. 1: Parotid swelling**



**Fig. 2: Tumor dissected from facial nerve**



**Fig. 3: Facial nerve after superficial parotidectomy**



**Fig. 4: Histopathology**

## DISCUSSION

Clinical diagnosis of oncocytomas is challenging because clinical features resemble those of other benign and low-grade salivary gland tumors [9]. Patients typically present with a solitary slow-growing painless parotid mass as observed in our case [4, 6, 7, 9, 11]. They are common in age group of 50-70years with a slight female preponderance [12]. Their occurrence in young individuals is rarely seen [13].

Oncocytic cells had been identified in many organs but most frequently in salivary gland, thyroid gland, parathyroid, lacrimal gland, pulmonary tree, and kidney [14]. Oncocytic metaplasia is the transformation of ductal and acinar epithelium to oncocytes, most frequently observed in mixed tumors and mucoepidermoid carcinomas of salivary gland. These may diffuse that involves the entire gland parenchyma or producing microscopic and macroscopic nodules, termed as nodular oncocytic hyperplasia or nodular oncocytosis [15]. Pathologically, oncocytoma is described as well circumscribed mass that is composed of layers of oncocytes (small round nucleus, microgranular, eosinophilic cytoplasm). For pre-operative diagnosis fine needle aspiration is the procedure, although sensitivity is reported to be only 29% [4]. Majority of pitfalls occur because of rarity of the disease, sampling error and lack of experience of the interpreter [16].

In this case report also we had a preoperative diagnosis as pleomorphic adenoma only to be subsequently diagnosed as oncocytoma in histopathology. Cells with oncocytic features may also be seen in tumors such as pleomorphic adenoma, mucoepidermoid carcinoma and rarely acinic cell tumors, salivary duct carcinoma and the uncommon oncocytic papillary cystadenoma [10]. So even in tumors diagnosed as pleomorphic adenoma in FNAC, a possible consideration of oncocytoma should be kept in mind.

The sonography features of parotid oncocytomas are nonspecific. It includes a hypoechoic

mass with well-defined margins, not unlike other benign parotid tumors such as pleomorphic adenomas [2, 9]. The important differential diagnoses for well-defined enhancing parotid tumors on CT include the Warthin tumor and basal cell adenomas [9].

The therapy is based on surgical management with radical or superficial parotidectomy [2]. Probably, there is no need for chemotherapy and/or irradiation, given the benign nature and slow growth rate of the tumour; recurrence is less than 20%, mainly because of incomplete surgical resection [16]. But the patient was advised for a regular follow up life-long.

### CONCLUSION

Oncocytoma should be considered among the differential diagnosis of unilateral parotid masses in elderly females. Though FNAC is an important pre-operative diagnostic tool, due to rarity of the disease and lack of interpreter experience, pitfalls are present. Hence a combined clinical, radiological and histopathological assessment is essential in accurate diagnosis.

### REFERENCES

1. Stomeo F, Meloni F, Bozzo C, Fois V, Pastore A; Bilateral oncocytoma of the parotid gland. *Acta Otolaryngol.*, 2006, 126(3): 324-326.
2. Jaffe RH; Adenolymphoma (oncocytoma) of parotid gland. *Am J Cancer*, 1932; 16: 1415-1423.
3. Sepúlveda I, Platín E, Spencer ML, Mucientes P, Frelinghuysen M, Ortega P *et al.*; Oncocytoma of the parotid gland: a case report and review of the literature. *Case Rep Oncol.*, 2014; 7(1): 109–116.
4. Capone RB, Ha PK, Westra WH, Pilkington TM, Sciubba JJ, Koch WM *et al.*; Oncocytic neoplasm of the parotid gland: a 16-year institutional review. *Otolaryngol Head Neck Surg.*, 2002; 126(6): 657–662.
5. Gray SR, Cornog JL, Seo IS; Oncocytic neoplasms of salivary glands. *Cancer*, 1976; 38: 1306-1317.
6. Blanck C, Eneroth CM, Jakobsson PA; Oncocytoma of the parotid gland: neoplasm or nodular hyperplasia. *Cancer*, 1970; 25(4): 919–925.
7. Thompson LD, Wenig BM, Ellis GL; Oncocytomas of the submandibular gland. A series of 22 cases and a review of the literature. *Cancer*, 1996; 78(11): 2281–2287.
8. Nikumbh DB, Nikumbh RD, Desai SR, Kshirsagar AY, Badwe AS; Oncocytoma of the parotid gland: Cytohistopathological diagnosis with brief review of the literature. *International Journal of Health Sciences & Research*, 2012; 2(6): 114-118.
9. Tan TJ, Tan TY; CT Features of parotid gland oncocytomas: A study of 10 cases and literature review. *Am J Neuroradiol.*, 2010; 31:1413–1417.
10. Austin MB, Frierson HF Jr., Feldman PS; Oncocytoid adenocarcinoma of the parotid gland: Cytologic, histologic and ultrastructural findings. *Acta Cytol.*, 1987; 31(3): 351-356.
11. Shellenberger TD, Williams MD, Clayman GL, Kumar AJ; Parotid gland oncocytosis: CT findings with histopathologic correlation. *Am J Neuroradiol.*, 2008; 29: 734 –736.
12. Johns ME, Regezi JA, Batsakis JG; Oncocytic neoplasms of the salivary glands: An ultrastructural study. *Laryngoscope*, 1977; 87(6): 862-871.
13. Jetley S, Jairajpuri Z, Rana S, Jaseem MH, Khan S; Fine needle aspiration cytology of salivary gland oncocytoma and its diagnostic challenges-A case report. *The Internet Journal of Pathology*, 2012; 13(2). Available from <https://ispub.com/IJPA/13/2/13784>
14. Takano K, Sato J, Shirasaki H, Yamazaki N, Hoki K, Himi T; Melanin pigmented oncocytic metaplasia of the nasopharynx. *Auris Nasus Larynx*, 2004; 31(2): 161–163.
15. Charles P, Narmadha P, Viswanathan P, Manohar U, Paramasivam; Oncocytoma of parotid gland. *J of Evolution of Med and Dent Sci.*, 2014; 3(35): 9366-9370.
16. Vlachaki E, Tsapas A, Dimitrakopoulos K, Kontzoglou G, Klonizakis I; Parotid gland oncocytoma: a case report. *Cases Journal*, 2009, 2: 6423.