Oncocytoma of Parotid gland: Case report of an uncommon tumor

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ABSTRACT

Oncocytoma of the salivary glands are benign epithelial tumors which are extremely rare, accounting for less than 1% of all salivary gland neoplasms. It is common in parotid gland, presenting as a unilateral solitary nodule. It is usually found in elderly people. We report a case of oncocytoma of parotid gland in a 46 year old female. The tumor was excised with superficial parotidectomy.

Key words: Oncocytoma; Parotid gland; superficial parotidectomy

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INTRODUCTION

Oncocytic tumors of the salivary glands are rare neoplasms accounting for less than 1% of all salivary tumors.[1] They are more common in parotid glands than others. They are usually seen in elderly people, when they present as a painless growing mass within the parotid gland. They are usually unilateral, but bilateral incidence of 7% is reported. [1] Clinical diagnosis of Oncocytoma is difficult due to the lack of characteristic clinical, radiological findings. Treatment of Oncocytoma of parotid gland is surgical, either superficial or total parotidectomy, depending on the location and extension of the tumor. [2]

CASE REPORT

A female age 46 years, presented with a slow growing painless swelling below the left ear pinna. She noticed the swelling before one year when she felt it as a small nodule, later it gradually increased in size. On examination there was a firm, non tender swelling on the lower part of left parotid

gland measuring about 3cm X 3cm, lifting the leftt ear lobule. Skin over the swelling was normal (Figure 1).

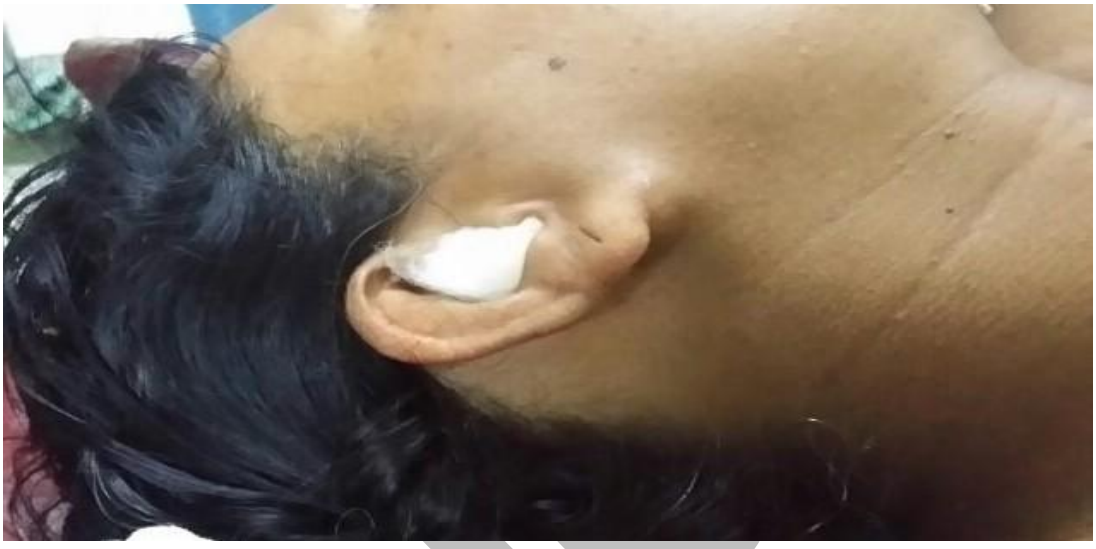

Figure 1: Clinical photograph of patient with right parotid mass

Ultrasonography showed heterogenous opacity with internal vascularity, favoring the diagnosis of pleomorphic adenoma. Fine needle aspiration cytology (FNAC) of the swelling showed features of warthin's tumor. Her general health status was good. Superficial parotidectomy was performed under general anesthesia. Histopathological examination of the mass showed tumor with cells having abundant eosinophilic cytoplasm, vesicular nucleus and prominent nucleolus, arranged in lobules. Whole tumor was divided into lobules by fibrous tissue. Focal collections of oncocytes were seen adjacent to normal tissue. Features were suggestive of Oncocytoma (Figure 2). Patient is in regular follow up and is asymptomatic for the last one year.

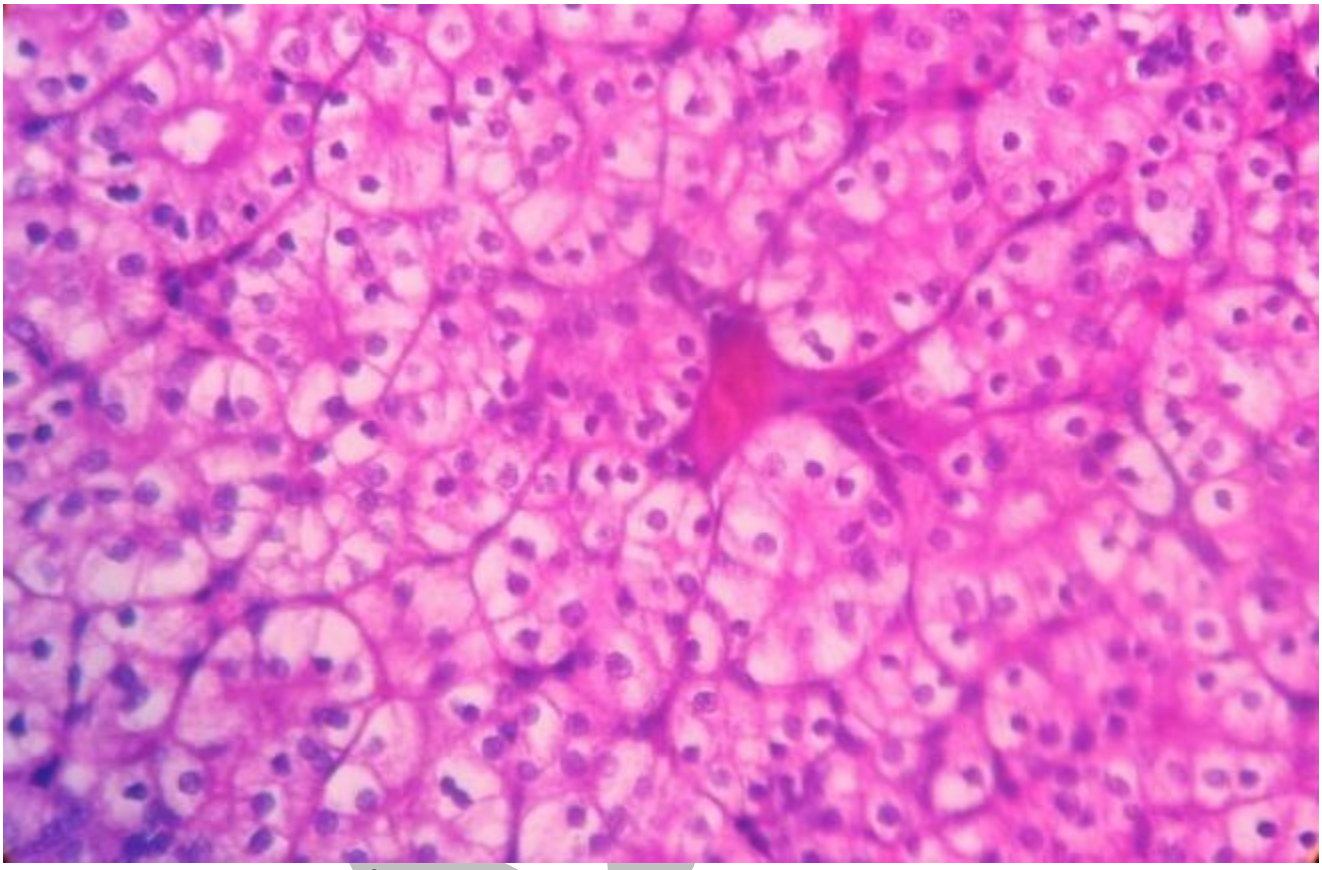

Figure 2: Histopathology of Oncocytoma (H&E stain, high power)

DISCUSSION

Oncocytoma are infrequently occurring benign neoplasms, found in any of the major salivary glands. Oncocytes can be seen in various normal tissues and a various pathological conditions. It was first described by Hurthle, a German pathologist In 1894 in normal canine thyroid glands. Hamperl in 1931 coined the term "Oncocyte". [3] They are also called as Oxyphilic cells, Askanazy cells and Hurthle cells. [3] Oncocytes are cells displaying marked cytoplasmic acidophilia and granularity. They are present in the acini and ducts of normal salivary glands, apparently originating by a process of sequential

transformation of normal epithelial cells. The granularity of the cytoplasm is due to the accumulation of mitochondria, which can occupy up to 60% of cytoplasm. [4]

The World Health Organization (WHO) classification of salivary gland neoplasms recognizes three oncocytic entities: Oncocytosis, Oncocytoma and oncocytic carcinoma. [3] Capone et al in their review of 21 oncocytic neoplasm, Oncocytoma as the most frequent morphology (62%), followed by oncocytosis (28.5%) and oncocytic carcinoma (9.5%).[5]

The term ‘‘Oncocytoma’’ was first coined by Jaffe in 1932. These tumors are histologically composed of monotonous sheets of oncocytes. [6] Synonyms are Oncocytic adenoma, oxyphilic adenoma. [2] These rare tumors comprise of less than 1% of all salivary gland neoplasms. [3] They occur more frequently in the parotid, but are occasionally found in submandibular glands, and in minor salivary gland sites including the lower lip, palate, pharynx, and buccal mucosa. They present most commonly in the 6^{th} -8^{th} decades. But Brandwein et al reported that patient with history of radiation exposure present two decade earlier. [1] They usually present as a slow growing painless mass, but the symptoms vary according to the site of origin.[2]

Role of imaging in the assessment of a salivary gland tumor is to define the location of the lesion, detect malignant features, assess local extension and invasion and to detect lymph node enlargement. For parotid lesions, ultrasound is a sensitive and efficient tool for superficial lesions accessible by high resolution Ultrasonography , which provides excellent resolution and tissue characterization without a radiation hazard. [7] Sonography features of parotid Oncocytoma are nonspecific, which include a hypo echoic mass with well defined margins. [6] Cervical node involvement can also be assessed. Ultrasound has a limited visualization of the deep lobe of the parotid gland. [7]

CT scan shows a well defined lesion within the parotid gland showing homogenous enhancement. [6] Fine needle aspiration cytology (FNAC) has been used as a primary screening tool for salivary gland lesions with high levels of sensitivity

and specificity. [8] It is very difficult to differentiate between benign and malignant oncocytic neoplasm cytologically, and FNAC diagnosis of well differentiated oncocytic carcinoma can only be made when there is metastasis to lymph node or distant metastasis. [9]

As salivary glands are notorious for having overlapping morphological features, diagnosis by cytology alone often becomes difficult. The situation may slightly improve by using multiple passes from the swelling. [8] In the recent literature, it was reported that the sensitivity of parotid FNAC ranges from 54% to 95%, specificity from 86% to 100% and accuracy from 84% to 97%. [7] The cytological pattern of these tumors will show groups and single cells with abundant, granular, eosinophilic cytoplasm. Nuclei tend to be round and nucleoli are present.

The individual cells and sheets from an Oncocytoma bear a striking resemblance to Warthin's tumor; however, in Oncocytoma there are no lymphocytic cells. [10] In our case, the cytological features were suggestive of warthin's tumor.

Treatment of Parotid gland Oncocytoma is complete surgical excision, either superficial or total parotidectomy, depending the location of tumor. [2] There is no role of radiotherapy in this condition, as oncocytes are typically radioresistant.

Histologically, the oncocytic cells are arranged in a solid or trabecular pattern. Microcyst formation can rarely be observed. The oncocytes display abundant granular eosinophilic cytoplasm. The cells are arranged in uniform sheets and they may aggregate into clusters, and sometimes they form duct-like structures. Occasionally a mixture of typical eosinophilic and clear cell oncocytes may be encountered within the same tumor. Tumors with a predominantly clear cell component are referred to as clear cell Oncocytoma. [2] Electron microscopy shows elongated aristae and a partial lamellar internal structure . The nuclei of the oncocytes are irregular and contain inclusions and glycogen granules. [2]

Recurrence of Oncocytoma after surgical excision is not common. However a recurrence rate of 20%-22% has been reported in the literature, cause of recurrence being mainly incomplete excision. Malignant form of Oncocytoma is termed as oncocytic carcinomas. They are

characterized by cytomorphologically malignant oncocytes or evidence of metastasis. They may arise from preexisting Oncocytoma or may occur de novo. [6]

CONCLUSION

Oncocytoma are rare neoplasms of the salivary glands, occurring more frequently in parotid gland than other major salivary glands. Rarity of the tumor, and absence of characteristic imaging and cytological features makes the diagnosis difficult. Histopathological examination is necessary to confirm the diagnosis. However, being a less aggressive neoplasm, complete surgical excision like superficial or total parotidectomy is the treatment of choice, without any need of adjuvant therapy.

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