Oncocytoma of Parotid Gland: A Case Report with a Review of the Literature

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ABSTRACT

Oncocytoma is a rare benign tumor of salivary gland origin, most often seen in the parotid gland. Oncocytoma is characterized by presence of large epithelial cell (oncocytes) with eosinophilic, finely granular cytoplasm and a rounded, centrally placed nucleus. They are most often encountered after the 6th decade of life. The clinical presentation of oncocytomas is essentially identical to other benign salivary gland tumors—a slow growing, nontender mass. They are firm, may be multilobulated and mobile on examination. Oncocytic neoplasms should be considered as a possible diagnosis in patients with parotid enlargement. This article describes a case of oncocytoma of parotid gland, which was present in the 4th decade of life, with a brief review of the relevant literature. 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.

Keywords: Benign tumor, Oncocyte, Oncocytoma, Parotid gland.

INTRODUCTION

Oncocytoma is a rare tumor that constitutes only 2.3% of benign epithelial salivary gland neoplasm. They are most often encountered after the 6th decade of life with a nearly equal male to female ratio of occurrence. The majority of this tumor affects the parotid gland (78%); few affect the submandibular gland (9%). The clinical presentation of oncocytomas is essentially identical to other benign salivary gland tumors—a slow growing, nontender mass. They are firm, may be multilobulated and mobile on examination. Oncocytic neoplasms should be considered as a possible diagnosis in patients with parotid enlargement. This article describes a case of oncocytoma of parotid gland which was present in the 4th decade of life, with a brief review of the relevant literature. 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.

Various synonyms have been applied to this neoplasm, such as oxyphilic adenoma, oxyphilic granular cell adenoma and eosinophilic adenoma. The hallmark of oxyphilic adenoma is presence of large epithelial cells (oncocytes) with eosinophilic, finely granular cytoplasm and a rounded, centrally-placed nucleus. Oncocytes are commonly present in the parotid gland, and are also noted in other salivary glands or other organs, such as parathyroid, thyroid, pituitary, adrenal gland and kidneys. The incidence of oncocytoma in the parotid gland is less than 1%.2

We present a unique case of oncocytoma in right parotid gland in a 40-year-old male patient.

CASE REPORT

A 40-year-old male patient reported to the department of oral medicine and radiology with a complaint of an extraoral swelling in right posterior side of face since last 3 years, which had been gradually increasing. There was no history of associated pain, tenderness and paresthesia.

The extraoral examination revealed a single diffused swelling over right side of ramus measuring approximate 3 × 4 cm, extending anteroposteriorly from midramus to about 2 cm behind the posterior border of ramus and superoinferiorly from just below the pinna of ear to angle of mandible. There was no visible pulsation and no sinus/fistula seen on the surface of the swelling (Fig. 1). On palpation the swelling was rubbery in consistency, mobile and nontender. Regional lymph node examination revealed no positive findings.

Fig. 1: Extraoral photograph showing enlarged right parotid gland
The intraoral examination did not reveal any significant findings except for root pieces with 16, 26, 46 and caries with 18, 28 and 37.

Based on the history and clinical examination our differential diagnosis included benign salivary gland tumor—pleomorphic adenoma, Warthin’s tumor.

Orthopantomograph did not reveal any significant findings. Ultrasonography of right parotid gland revealed well-defined hypoechoic lesion (Fig. 2). CT mandible revealed a well-defined isodense soft tissue density lesion in the right parotid gland measuring approximately 2.6 × 2.9 × 3.3 cm in the antero-posterior, transverse and superoinferior dimensions (Fig. 3). The lesion had a well-demarcated border and was not infiltrating the structures around parotid gland. The lesion showed moderate homogenous postcontrast enhancement (Fig. 3).

Patient was scheduled for surgical excision of the tumor. During surgery, it was found that the tumor was located on the superficial lobe of right parotid gland with no facial nerve involvement. A partial superficial parotidectomy was performed and the gross specimen was sent for histopathological examination.

The hematoxylin and eosin stained section showed discrete cellular nodules lined by thin fibrous capsule. These cells are large in size with centrally placed nuclei and have a granular eosinophilic cytoplasm suggestive of oncocyte. Few cells also show clear cytoplasm and peripherally-placed nuclei suggestive of clear cell. Overall picture suggestive of oncocytoma/clear cell oncocytoma (Fig. 4).

DISCUSSION

Schaffer first described eosinophilic, granular, swollen cells in the salivary glands, pharynx, trachea and esophagus in 1897. Jaffe first introduced the term ‘oncocytoma’ but referred to the lesion now called adenolymphoma (Warthin’s tumor).3

Hamperl is considered to be the ‘father’ of oncocytes, originally referred to as ‘onkocytes’. He chose this word because of the Greek root word ‘onkoustha’, which means ‘increase in bulk’, swollen, enlarged or tumor.4

Pathogenesis is quite obscure, although mitochondrial functional defects are believed to mediate the progressive degeneration of the salivary epithelial cells. The correlation of certain viruses, such as EBV, HIV, HHV-8, HTLV-1 and HPV with parotid neoplasias have been documented.5

The clinical presentation of oncocytomas is essentially identical to other benign salivary tumors—a firm, slowly growing, painless mass that rarely exceeds 4 cm in diameter. Parotid oncocytomas usually are found in the superficial lobe of parotid gland and appears as a discrete, encapsulated mass which is sometimes nodular.6,7

For parotid lesions, ultrasound (US) is a sensitive and efficient procedure for relatively superficial structures accessible by high-resolution US which provides excellent resolution and tissue characterization without a radiation hazard. Cervical node involvement can also be assessed. US has a limited visualization of the deep lobe of the parotid gland.8

The CT features of parotid oncocytomas in the largest imaging series of this rare but important benign lesion include a well-defined enhancing tumor with a ‘deformable’ appearance when large and a nonenhancing curvilinear cleft or cystic component.9
The histopathological diagnosis of oncocytoma has been proved to be challenging, the oncocytoma is easy to misdiagnosed as pleomorphic adenomas with predominant oncocytic features. The oncocytomas were usually observed with thin fibrous connective tissue capsules. The thick connective tissue capsule with partial crystal formation or hyaline degeneration was not seen in oncocytomas but often occurred in pleomorphic adenomas.10

Surgical management with radical or superficial parotidectomy represents the cornerstone of therapy. Probably, there is no need for chemotherapy and/or irradiation, given the benign nature and slow growth rate of the tumor; recurrence is less than 20%, mainly because of incomplete surgical resection.11

CONCLUSION

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.

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