ABSTRACT
Oncocytic carcinoma is a rare proliferation of cytomorphologically malignant oncocytes mainly found in the glandular tissue. We report a case of oncocytic carcinoma arising in the right parotid gland of a 67-year-old man. He was thought to have cervical lymph nodes metastasis and local recurrence even after multiple surgeries over the right parotid gland and underwent radiotherapy twice. We suggest that patient with such tumour who undergoes aggressive surgery serve a better prognosis than conservative management and radiotherapy. (Rawal Med J 2013;38: 311-313).

Keywords: Oncocytic carcinoma, parotid, cervical nodes metastasis, oncocytes.

INTRODUCTION
Oncocytes are found in the major and minor salivary glands and in the larynx, trachea, bronchi, oesophagus, nasal mucous membranes, thyroid, parathyroid, pancreas, liver and stomach. The term oncocytic carcinoma, oncocytic adenocarcinoma, malignant onc cytoma and malignant oxyphilic adenoma are synonymous. Oncocytic carcinoma is an unusual proliferation of cytomorphologically malignant oncocytes and adenocarcinomatous architecture phenotypes mainly found in glandular tissue. Its malignant nature is distinguished from oncocyto ma by abnormal morphological features and infiltrative growth. 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. Oncocytic carcinoma represents less than 1% of all salivary gland neoplasms and 5% of all oncocytic salivary gland neoplasms. Bauer et al reported the first case of oncocytic carcinoma in 1953. Most cases of salivary gland oncocytic carcinoma occurred in parotid glands but recent reports have described tumour that involved submandibular gland and minor salivary glands of the palate, nasal cavities and the paranasal sinuses. Other sites of oncocytic carcinoma are thyroid, parathyroid, kidneys, ovary, nasal cavity, superior mediastinum, lung and breast. In this report, we describe a case of oncocytic carcinoma of right parotid gland with multiple surgeries done previously before presenting to us with bilateral cervical lymph node metastasis and local recurrence.

CASE PRESENTATION
A 67 years old man was diagnosed to have oncocytic carcinoma of the right parotid gland 3 years ago and was treated with right parotidectomy and post operative radiotherapy. He then had 2 more surgeries for recurrent swelling at the same site a year after. The histopathology was reported as benign oncocyto ma. A third local recurrent was noticed last year and resection was done. The histopathology showed recurrent oncocytic carcinoma. The area was then re-radiated. He presented to our centre with the complaint of recurrent swelling over the previous operated site for 1 month duration. Besides, he also noticed there were swellings over the submental region and the left side of neck.

On examination, the patient had grade II (House-Brackmann) lower motor neuron facial nerve palsy. There were multiple small nodules over the parotidectomy scar site and a 1.5cm x 1cm swelling over the submental region. There was left level III
swelling measuring 1x1 cm.

Patient underwent right total parotidectomy with facial nerve resection, right type I modified radical neck dissection and left type III modified radical neck dissection. Microscopic examination of the tissue sample confirmed metastatic oncocytic carcinoma of the right radical neck specimen, level 1A node, left cervical node, right ear lobe skin and left perifascia tissue.

DISCUSSION
Tumors with a significant oncocytic component include Warthin’s tumor, oncocytoma, and oncocytic carcinoma. Oncocytic carcinoma is an extremely rare malignancy in salivary glands, accounting only for 11% of all oncocytic salivary gland neoplasms, 0.5% of all epithelial salivary gland malignancies and 0.18% of all epithelial salivary gland tumors. They are characterized by a few factors include local lymph node metastasis, distant metastasis, peri-neural, vascular or lymphatic invasion, frequent mitoses and cellular pleomorphism with extensive invasion and destruction of adjacent structures. Oncocytic carcinoma is predominantly composed of round or polyhedral cells arranged in small clusters and occasional solid sheets. Cells have abundant eosinophilic cytoplasm because they have excessive numbers of mitochondria.

It has been reported by Shintaku and Honda that anti-mitochondrial antibody is highly specific and sensitive to confirm the oncocytic nature of the granular cytoplasm. Fine needle aspiration cytology (FNAC) is less sensitive for oncocytic neoplasms, perhaps due to the rarity of these tumors and diagnostic pitfalls previously associated with FNAC (for example, sampling errors and over interpretation of paucicellular specimens).

Approximately one-third of patients with oncocytic

Fig 2 and 3. PET scans show uptake of tracer in the right parotid, submental and left level III nodes.

Fig 1. Submental node in T1 weighted MRI. The scar nodule was taken and sent for histopathology examination. The report came back as recurrent oncocytic carcinoma. MRI showed non enhancing lesion at the previous site of parotidectomy possibly represent scar tissue and enlarge nodes in the submental and left level III (Fig 1). PET scan showed uptake of tracer at the right parotid region with 3 foci ( SUV 9.25, 5.02 and 3.12), a focus in submental region with SUV of 33.1 and a focus in the left level III nodes with the SUV of 312.
carcinoma of the parotid develop a painful mass or experience facial paralysis. The skin overlying the gland is occasionally discolored or wrinkled. Diagnosis is usually made 1 to 2 years after the onset of disease. Nakada et al published a review of 27 cases oncocytic carcinoma of the parotid gland. Those patients ranged in age from 30 to 91 years (mean: 58). Local lymph node metastasis occurred in 17 patients (63.0%) and distant metastasis in 7 (25.9%). They reported that distant metastasis appeared to be the most important prognostic feature of oncocytic carcinoma. Local lymph node metastasis was not necessarily a critical factor in the overall prognosis. Goode and Corio reported nine cases of oncocytic carcinoma of the salivary glands. Recurrences developed in five out of these nine patients (55.6%), four of whom had been treated initially with conservative rather than aggressive surgical intervention. They also reported that tumors smaller than 2 cm in diameter appeared to be associated with a better prognosis than those that were larger. It seems clear from their study that patients who undergo more aggressive initial surgery have a significantly better overall prognosis.

For our patient, he might have undergone four times of conservative surgeries initially before presenting to us with recurrence. This can be proved by the preservation of the facial nerve after the surgery. As oncocytic carcinoma usually have peri-neural invasion, hence the resection of facial nerve might have been necessary in the initial surgery. Our patient has undergone radiotherapy twice prior to the recurrence and this is consistent as reported by Goode and Corio. It is recommended that prophylactic neck dissection may be indicated for tumors that are larger than 2 cm in diameter. For our patient, he presented with bilateral cervical lymph nodes metastasis 3 years after the initial diagnosis. This is most probably because the tumor had metastasis to the level 1 nodes and subsequently drained to the nodes at the contralateral side. In conclusion, oncocytic carcinoma is an extremely rare malignancy in salivary glands and the standard treatment and prognosis is still unclear. Aggressive surgery and prophylactic neck dissection might be needed if the tumor is larger than 2 cm. Radiation itself has a minor role in the treatment of oncocytic carcinoma.

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