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Case Report

Multifocal Nodular Oncocytic Hyperplasia with Oncocytosis of Parotid Gland - A Case Report

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Abstract

Multifocal nodular oncocytic hyperplasia of parotid gland is a rare clinical entity. Here we report an unusual case of multifocal Nodular oncocytic hyperplasia with oncocytosis of parotid gland in a 72-year-old lady who presented to us with history of right parotid swelling of two weeks duration.

Keywords: Multifocal Nodular Oncocytic Hyperplasia; Oncocytosis; Parotid Gland

Case Report

A seventy two years old lady came to us with chief complaints of swelling on right parotid region of two weeks duration. There was no history of increase in size of swelling with meals. On clinical examination it was 2x2 cm, painless, firm, mobile, well circumscribed swelling over Right Parotid region without involvement of overlying skin and without any signs and symptoms of inflammation. Facial Nerve examination revealed no evidence of any facial palsy. There was no involvement of regional cervical lymphadenopathy.

Following specific investigations were done

- Ultrasonography of Right parotid
- FNAC from Right parotid swelling
- MRI Head and Neck
- HRCT Chest.

Ultrasonography revealed approximately 2x2 cm intraparotid tumour in the superficial lobe. Fine Needle Aspiration Cytology (FNAC) from right parotid swelling was suggestive of Suspicious for malignancy (Figure 1) MRI Head and Neck revealed approximately 2.3x1.7x1.1 cm well circumscribed, lobular, lesion in right parotid

gland superficial lobe. Deep lobe was free, bilateral sub centimeter sized lymph nodes B/L Level Ib, II, III (Figure 2).

Figure 1: FNAC from right parotid lesion suggestive of polyhydral cohesive cells with mild to moderate anisocytosis suggestive of suspicious of malignancy [Gimsa Stain Magnification 20X].

Figure 2: MRI Head Neck depicting 2.3x1.7x1.1 cm well circumscribed, lobular, lesion in right parotid gland superficial lobe.

HRCT chest showed no evidence of lung nodules.

Subsequently, the patient was planned for right superficial parotidectomy with Right Level II lymph node sampling. (Right level II lymph nodes to be sent to frozen section and if involved then to continue with the comprehensive neck dissection level I to V).

The patient subsequently underwent right sided facial nerve preserving superficial parotidectomy (Figure 3). Intraoperatively a cystic nodule in deep lobe was seen between the two buccal branches. It was removed. Right level II nodes were sampled and sent for frozen section upon which turned out to be reactive.

Figure 3a: Intraoperative photograph depicting Facial nerve preserving superficial parotidectomy.

Figure 3b: Intraoperative photograph depicting Facial Nerve main trunk and its divisions post removal of superficial lobe.

Figure 3C: Superficial parotidectomy specimen.

The final Histopathology revealed approximately 4.5x4.0x1.0 cm parotid gland containing tumour around 1.5 cm cystic structure with colloidal material and small cystic nodule cystic nodule from deep lobe. Histopathology revealed atrophic salivary parenchyma with presence of cystically dilated duct lined by metaplastic squamous epithelium surrounded by salivary parenchyma with acinar atrophy. Multiple foci of hyperplastic ducts with oncocytic changes noted depicted by large polyhedral cells, abundant eosinophilic granular cytoplasm, pyknotic nuclei all over the tumour. It was suggestive of multifocal nodular oncocytic hyperplasia of parotid gland (Figure 4).

Figure 4a: Photomicrograph of histopathological appearance depicting large polyhedral cells, abundant eosinophilic granular cytoplasm, pyknotic nuclei [Magnification 10X].

Figure 4b: Photomicrograph of histopathological appearance depicting large polyhedral cells, abundant eosinophilic granular cytoplasm, pyknotic nuclei multiple small foci aggregates of oncocytes found in the gland suggestive of nodular oncocytic hyperplasia [Magnification 20X].

The patient had uneventful post operative recovery with normal facial nerve function.

Figure 5: Clinical photograph post operatively depicting normal facial nerve function [Post-operative Day 3].

Discussion

Multifocal nodular oncocytic hyperplasia of parotid gland is a rare salivary gland neoplasm accounts less than 1% of all salivary gland tumors [1,2]. Average age of presentation is around 72 years. It is hypothesised to be originated from compensatory hyperplasia of mitochondria of normal cells [3]. Patient usually presents with painless lump in parotid often seen in elderly individual aged more

72 years. Routine diagnostic work up includes imaging and FNAC. FNAC helps to indicate neoplastic versus non neoplastic (Sensitivity around 88 to 96%) vide. meta analysis [4]. Ultra-sonography helps to distinguish focal from diffuse disease, assess adjacent vascular structures, solid vs cystic lesion. MRI is preferred modality because of better soft tissue delineation to know site, extent, perineural spread and deep lobe involvement [5]. Management constitutes complete surgical excision. For tumour confined to superficial lobe, minimal surgery required is facial nerve preserving superficial parotidectomy with sampling of Level II cervical Lymph nodes.

Morphologically tumour is -well circumscribed, solid, yellow tan surface. Microscopically it shows large polyhedral cells, abundant eosinophilic granular cytoplasm, pyknotic nuclei [1,3].

Histopathological differential diagnosis include

- Warthin's tumour
- Acinic cell carcinoma
- Oncocytic carcinoma.

However, presence of oncocytes i.e. Large polyhedral cells, abundant eosinophilic granular cytoplasm, pyknotic nuclei all over the tumour in the form of solid clusters or cords of oncocytic/ clear cells in an organoid pattern differentiate this tumour from Warthin's or acinic cell tumours. Presence of Perineural invasion, local invasion, increased mitotic activity, necrosis, vascular invasion, lymphatic invasion suggests the diagnosis of oncocytic carcinoma [3].

This is one of the few salivary neoplasms known to occur bilaterally others been Warthin's tumour and acinic cell carcinoma. Prognosis is usually excellent after complete surgical removal. Recurrence rate varies from 0 to 30% over 0.5 to 13 years as per literature review [3-6]. Complete surgical excision is the treatment of choice.

In the present case the oncocytic changes i.e. nodular oncocytic hyperplasia was associated with oncocytic changes throughout the parotid gland suggesting oncocytosis. There have been very few case reports of this clinical condition in global English literature. This being the rare presentation and presence of oncocytosis in this case makes it unique.

Conclusion

Multifocal nodular oncocytic hyperplasia with oncocytosis is a rare salivary gland neoplasm. Although benign in nature it does has potential for malignant transformation. Treatment essentially constitutes complete surgical extirpation by preserving facial nerve followed by scrupulous histology and careful follow up.

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