

## EARRING LESION OF THE PAROTID TAIL

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### INTRODUCTION

Masses in the Parotid tail can be source of consternation to radiologist and clinicians and therefore need attention. Inaccurate localization may lead to significant iatrogenic complications. Anatomically localization lesions of Parotid tails is of relevance as it often creates radiological confusion, as was in this case also. Imaging features of Parotid tail involvement need to be reviewed for, proper understanding and discussed with radiologist for complication free management. A Clinico-radiological correlation reviewing 111 such cases was found which described pleomorphic adenoma (15), Warthin's tumor (14), infective pathologies, Sjogren disease and also malignant lesions in 27 cases. The notable radiological findings in the cases where enhancement, multiplicity of lesions, on CT and diffusion weighted (varied) signal intensity of MR changes. Relationship of parotid tail/ lesions with surrounding structures like facial nerve or its branches, sternocleidomastoid muscle and posterior belly of digastric muscle, proximity close to the level II LN and posterior part of submandibular salivary gland all need to be clearly examined and analyzed. Such a lesion has been referred to as Earring lesions in literature. Earring lesion is best appreciated and less confusing in coronal images and equally challenging in palpation. Though rare, localizing anatomical features of parotid tail lesions are reviewed in this paper along with a case report of parotid tail tumor.

### CASE REPORT:

A male patient 59/M presented in the ENT department with a swelling below his right ear

since three years. There was no history of trauma, Swelling was pea sized to begin with and gradually increased to the present size of about 5\*3cm. It was not associated with the history of pain, fever, discharge, sudden increase in size, change in size of swelling with the meals, earache or ear discharge. There was no history of facial asymmetry, loss of appetite or weight. There was no significant family history, Patient was nondiabetic and normotensive.

General Examination did not reveal any abnormalities. Local Examination showed an ovoid fusiform swelling about the size of 5\*3 cm right infra auricular region.

Superior extent of the swelling was right lobule of ear, anteriorly extended from the angle of mandible downwards in the neck over the SM muscle. Posterior border of the swelling was (superficial) over the SM not fully covering it. Inferiorly it was 5 cm above the clavicle, it was non tender. Swelling was firm in consistency in the part just below the ear & Soft to fluctuant in the inferior part. Mastoid process was freely palpable. Skin over the swelling normal and free. Swelling was also free from deeper structures.

There was no palpable lymph nodes in the neck. Rest ENT examination was within normal limits.

First FNAC showed a cystic lesion, while the second time it described cystic change in neoplastic lesion.

USG showed signs possible of salivary gland origin of multiple lesion in right parotid region with

complex internal echoes in the superficial lobes . On the MRI the radiologist reported the possibility of necrotic level II lymph node while right parotid gland was reported to be bulky with heterogeneous echo texture with few intra parotid lymph node seen.

Superficial Parotidectomy was planned under GA. Modified Blair incision was further modified keeping given and dissection was centered over the horizontal part of incision and flap was elevated superficial to the parotid fascia in subplatysmal plane. Intra operatively a cystic lesion about the size of 8\*3 cm was dissected from the surrounding tissues. Superiorly, the mass was found to be reaching the tail of parotid gland , it was pedunculated and was separated and send for HPE. HPE revealed Warthins tumor of the tail of Parotid

## DISCUSSION

Masses in the paroti tail referred to as Earring lesion of the parotid tail can be source of the confusion for both clinician and radiologist. Inaccuracies in understanding the anatomy of this region

may result in significant iatrogenic complications Lesions of the tail of parotid are difficult to localize correctly as they confuse the clinician with a mass at angle of mandible which may be arising from posterior part of submandibular gland , parotid gland or may be lymph node at level II . This is more so in

pedunculated lesion of parotid tail Biopsy of this lesion may carry risk of marginal mandibular nerve injury ,if the mass is from parotid tail because this branch passing therein this area. Parotid tail is the most inferior 2 cm part of the superficial lobe of parotid . Some surgeon say that tail is the entire retromandibular part of parotid gland inferior to the main trunk of facial nerve and not just 2 cm as described. The facial nerve ramification in the parotid gland have variable branching pattern (katz and catalano classification ) the inferior most branch i.e marginal mandibular nerve runs within the parotid tail or this region as described .

Another important structure which may be encountered during dissection of this area is the retromandibular vein. Which is medial to lower division of facial nerve in the lower part of the gland . Occasionally the vein is duplicated when the nerve and its branch may be passing between the two vessels or may be intertwined.

Parotid tail (is composed) consists of a triangular area of tissue deep to platysma muscle posterolateral to the post belly of digastric and anterolateral to SCM ( as in the case ) the post belly of digastric separates the parotid tail from carotid space (? triangle). The most inferior aspect of tail may terminate at angle of mandible and therefore inferior 2 cm of the gland is usually defined as tail of the parotid .

The fascia covering the parotid glad (starting from... ) continues to the styloid process contributing to the stylomandibular ligament further going to fuse with the posterior belly of digastric and angle of mandible . This sleeve of fascia at angle of mandible serves to separate parotid gland and its space from the submandibular space thus confusing the surgeon in differentiating the mass in this area from a submandibular one also. In axial CT , a pedunculated mass from tail of parotid may not be surrounded by normal parotid tissue rather in old thin patients with atrophied glands . The parotid tail lesion may be seen lying close to posterior part of sub mandibular space leaving no clear planes of separation between them . Also a big level II LN often mistaken in this area for parotid tail. Here important point to differentiate between the two is that Level II JDLN is anteromedial ? deep to SM the parotid tail lesions are anterolateral (superficial to SCM) . This is often the situation giving the false impression of a LN being confused for a parotid tail lesion in axial images . However coronal image will usually clearly the persisting carriers regarding the origin of a mass in this location . Most parotid tail masses present at angle of mandible masses and Non Otorhinolaryngologist may more often mistake

these for submandibular masses. Therefore for such masses it becomes very important to evaluate by MRI/CE- MRI to know / define their intraparotid / extra parotid location .

In this case patient is on follow up since right parotid was reported to be bulky because Warthins tumors are cystic and multicentric many a times .

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