

## PARAPHARYNGEAL SPACE LIPOMA

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**ABSTRACT** Lipomas of the Para-pharyngeal space are rare lesions. Very few cases of such tumors have been reported in the literature. Definitive diagnosis and decision regarding the surgical approach were difficult in the pre-CT scan era. This was further compounded by the complex anatomy of the Para-pharyngeal space. A case of Para-pharyngeal lipoma is being presented because of its rarity and characteristic radiological features. After confirmation of the diagnosis, the tumor was excised via a transcervical approach.

**Key Words** lipoma, parapharyngeal space

### INTRODUCTION

The Para-pharyngeal space resembles an inverted pyramid (Batsakis et al 1989) the base of the funnel shaped space is the inferior surface of the petrous bone and the apex is at the greater cornu of the hyoid bone. The posterior boundary is the vertebral column and the paravertebral muscles: rectus, rectus capitis and levator scapulae. Anteriorly the junction of pterygoid fascia to the buccinator muscle fascia and the pterygomandibular raphe and the submandibular gland limits the space. Medially are the superior constrictor muscle and the tonsillar fossa. Laterally from anterior to posterior are the medial pterygoid muscle, inner surface or ramus of mandible, parotid gland and the posterior belly of the digastric muscle. Inferiorly the fascia at the hyoid is weak. A thin fascial covering separates this space from the retropharyngeal space posteriorly. Communications between these compartments are not uncommon.

Para-pharyngeal space is divided into anterior (pre-styloid) medial (retro-pharyngeal) and posterior (retro-styloid) compartments by fascial planes. The space is expansile and exhibits proximity to vital structures.

Para-pharyngeal space tumors account for less than 0.5 percent of all head and neck neoplasia (Ricardo et al 1990).

Lipomas account for only one to two percent of these (Scott et al 1999, Kakani et al 1992). They are rare in this region with only a few reported cases (Elango et al 1995). Only 13 percent of all lipomas occur in the head and neck (Kakani et al 1992). Majority of these are subcutaneous. Liposarcoma, the main differential diagnosis, is also rare.

### CASE REPORT

A 38-year-old female presented with a gradually increasing swelling involving the right side of the face and upper neck, which was first noticed two years back. There was no history



Fig 1 Swelling in right side of face & upper neck

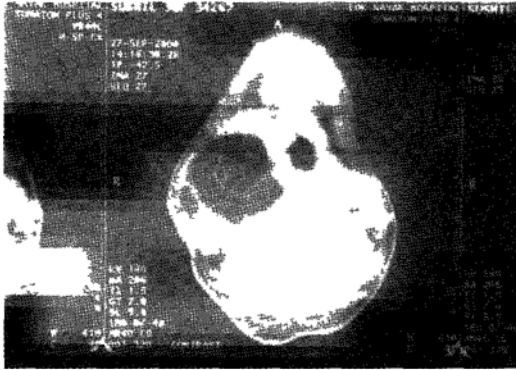


Fig II CT Scan- axial cut

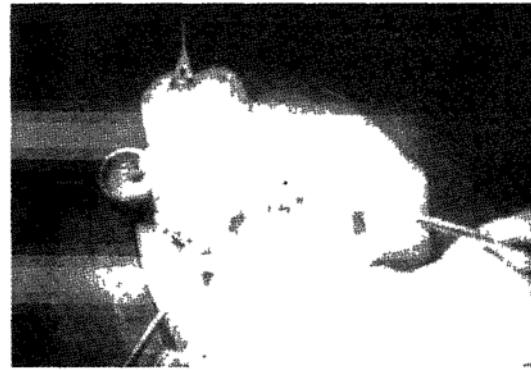


Fig III Surgical excision

of pain, dysphagia, dyspnea or facial asymmetry. The general and systemic examination was normal except for hypertension for which the patient was started on antihypertensives.

On local examination, a 10 cm by 6 cm, soft to firm swelling was noted in the right submandibular, infraauricular and upper cervical area (Fig.I). The swelling was non-tender, non-fluctuant and was mobile from below upwards. Rest of the ear, nose throat and head and neck examination was within normal limits.

Fine needle aspiration cytology was reported as lipoma. Other pre-anesthetic work up investigations were normal.

A CT scan was done and sequential axial and coronal cuts of skull base and upper neck were taken before and after administration of intravenous contrast. It revealed a large, well-defined, hypo dense lesion of fat attenuation with soft tissue strands within it. Superiorly the mass was extending into the right parotid region, going medial to the mandible and inferiorly up to the right lobe of the thyroid gland. It was also displacing the carotid sheath medially and the submandibular gland anteriorly. It was seen to be abutting onto the pharyngeal wall, pushing it medially (Fig. II ).

The patient underwent excision of the Parapharyngeal lipoma under general anesthesia using a modified Blair incision extending to the submandibular area. A well encapsulated mass was resected in toto after lifting up the parotid tail and lifting the mandible up (Fig. III). The removed specimen is shown in Fig. IV. Histological examination revealed mature adipocytes and a well-defined capsule, confirming the diagnosis of a lipoma.



Fig IV Excised mass

Post operatively there was right marginal mandibular nerve paresis, which became normal after two weeks. Apart from this, the patient had an uneventful recovery and there has been no recurrence of the lesion.

## DISCUSSION

Majority of the tumors of the Para pharyngeal space is benign and most are of salivary origin (Batsakis et al 1989). Enlarged lymph nodes are usually metastatic. Other lesions may also be encountered in this area ; neurogenic tumors & chemodectomas are some of these. Branchial cysts may present as a mass in the parapharyngeal space and swellings may also be the result of inflammatory process. Lipoma is a tumor composed of mature adipose cells and surrounded by a fibrous capsule. They have fibrous strands and if the fibrous element is considerable, they are referred to as fibrolipoma. They may be single or multiple and superficial or deep-seated and recur locally in five percent of the cases (Enzinger et al 1983). Most of these lesions are asymptomatic and become

evident as oropharyngeal bulge only after attaining a size of 3 cm (Ricardo et al 1990). Presenting features may be pressure symptoms and signs like obstructive dysphagia and airway obstruction manifested as sleep apnea. Otolgic symptoms and signs may result from Eustachian tube obstruction causing serous otitis media (Elango et al, 1995).

Fine needle aspiration cytology may not be representative and cannot be relied on (Scott et al 1999). Among radiological investigations, CT scan has up to 90 percent accuracy rate but most authors favour M. R. I. as it has an accuracy rate of 95 percent. CT Scan usually reveals a non-enhancing low-density mass and nodules or streaks within the mass are suggestive of a liposarcoma, which is the main differential diagnosis (Scott et al 1999).

Complete excision is the treatment of choice. The various approaches are trans cervico submaxillary, trans cervical, trans mandibular, trans parotid and craniofacial. Decision as to the approach depends on tumor size, location, relation to major vessels and index of suspicion of malignancy (Ricardo et al 1990). Trans cervical approach can be used in tumors up to 8 cm in size (Scott et al 1999). Advantages include adequate exposure of vital structures and less chances of damaging the facial nerve (Kennedy et al 1990). It however limits exposure posteriorly, superiorly and medially if the tumor is large. A complete resection is essential and it is the histopathologic examination of the specimen, which confirms the diagnosis.

Transoral approach, which was used in the past for excision, is not used now. The exposure offered by this route is very poor. There are also increased chances of vascular and neural injury, which make this approach unsafe.

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