

Giant Ectopic Minor Salivary Gland Tumour in Parapharyngeal Space

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ABSTRACT

Introduction

Parapharyngeal tumours are rare head neck masses (0.5%). Most of them are benign. Deep location of this space and surrounding structures has led to emergence of many different approaches to this space reflecting the intrinsic difficulty in surgical access.

Case Report

An ectopic minor salivary pleomorphic adenoma of parapharyngeal space with massive extension.

Discussion

Parapharyngeal space has complex anatomy, its deep location and relationship with vital structures renders a surgical challenge. Clinical examination of the space is difficult, so imaging plays a major role to know its origin and extension. Pleomorphic adenoma is the most common tumour from the extension of deep lobe of Parotid gland but very rarely from the ectopic minor salivary glands. Excision of benign parapharyngeal space tumours is possible without mandibulotomy even in the case of a large tumour mass reducing patient morbidity and hospital stay.

Keywords

Parapharyngeal Space; Pleomorphic Adenoma; Minor Salivary Gland

The parapharyngeal space (PPS) is an inverted pyramidal shaped deep neck space extending from the skull base to the hyoid bone. It can be divided into two compartments: prestyloid or anterolateral and post-styloid (posteromedial) separated by the tensor veli palatini muscle and the styloid process.

Tumours of the parapharyngeal space are rare and comprise less than 1 % of all head and neck neoplasms.¹ Majority of PPS are benign (70–80%): approximately half of them originating from the salivary glands (40–50%), while the rest arise from nerve structures (20%) or are enlarged lymph nodes (15%). Approximately, 20% are malignant. Pleomorphic adenoma is the most common out of all PPS tumours.² Different surgical approaches have been described for PPS tumours. The transcervical approach was first described by Morfit³ while the

transcervical trans parotid approach is the most widely used; the trans palatal or transoral approaches are associated with less morbidity, but are limited to small lesions if used alone.

Case Report

In the ENT out patient department a 44-year-old female presented with a painless swelling on the right side of neck in the infra-auricular region for 7 years. It was

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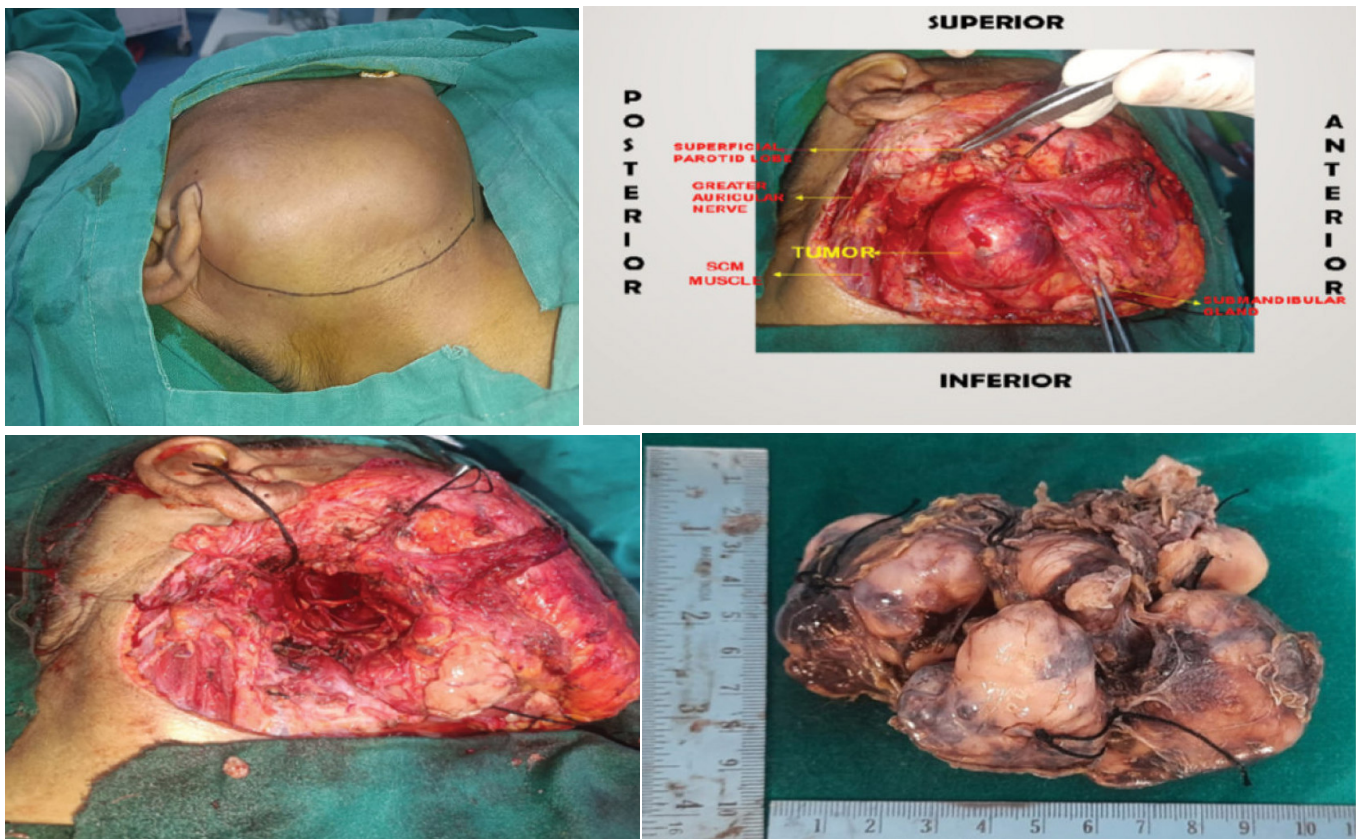


Fig. 1. Intra operative pictures

insidious in onset, gradually progressive. Voice change for 2 years. There was no history of difficulty in breathing or swallowing. Inspection- About 6 x 4 x 3 cm lobulated swelling seen in the right parotid region extending postero-superiorly behind the lobule up to the mastoid tip, posteriorly lying over the anterior border of SCM muscle, in infra-auricular region extending anteromedially in the neck below the angle of mandible up to submandibular region, overlying skin was normal but stretched, no discoloration or scar seen. On palpation a single large lobulated swelling with smooth surface, normal skin temperature, non-mobile, non-reducible, firm to hard, fixed to underlying structures, overlying skin free. There was no bruit on auscultation. Intra orally a mass was seen bulging behind the right anterior pillar pushing the soft palate and uvula from midline to the left. (Figure 1)

CECT neck showed - 5 x 10 x 7 cm well defined lobulated heterogeneously enhancing soft tissue lesion in right infratemporal fossa, displaces deep lobe of parotid laterally. Antero inferiorly causes widening of mandibular canal, thinning and lateral bulge of vertical ramus of mandible. Rt TMJ subluxation. Anteriorly widening and remodelling of pterygoid plates. Carotid space displaced postero laterally, lesion compresses right IJV. Inferiorly indents right submandibular gland. Differential diagnosis were benign neoplasm, paraganglioma, mandibular nerve sheath tumour. USG abdomen and pelvis was done to rule out any adrenal tumour (phaeochromocytoma) or lymphoma. FNAC was suggestive of pleomorphic adenoma. MRI face & neck- Multilobulated heterogenous signal intensity space occupying lesion of approx. 5 x 10 x 7 cm (ap x tr x cc) in right PPS with extension into

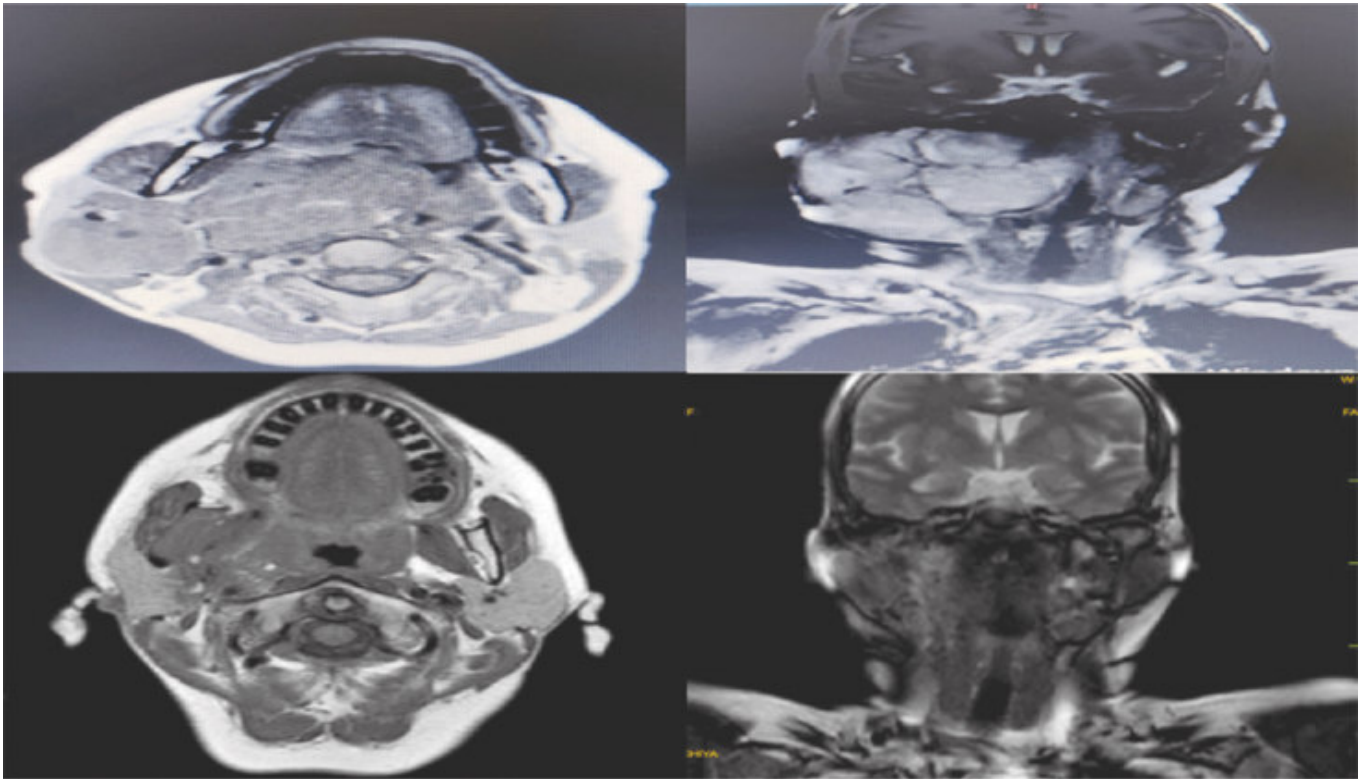


Fig. 2. MRI with contrast (T2W) axial and coronal sections A, B- Preoperative C, D- Postoperative

masticator space, compromised oropharyngeal lumen due to mass effect, extending into submandibular space compressing right submandibular gland. Significant compression of deep lobe of parotid postero-laterally was seen. Carotid and jugular was displaced posteriorly suggestive of neoplastic mass in right parapharyngeal space. (Figure 2)

Transcervical trans parotid excision of the mass was done in total. Modified Blair incision was combined with transcervical incision. Subplatysmal flaps were elevated and tumour was exposed. A multilobulated tumour was seen pushing the superficial parotid lobe laterally, branches of facial nerve seen stretched over the tumour, preserved one lobe going deep in ITF. Submandibular gland was pushed antero inferiorly. The superior extent was up to foramen ovale causing its widening. Tumour was separated from surroundings including styloid apparatus, deep lobe of parotid and submandibular gland by blunt dissection, deep lobe of tumour was seen going

into infratemporal fossa. No nerve involvement seen. The excised mass was sent for histopathological examination. Patient developed slight deviated angle of mouth (marginal mandibular nerve stretching), rest cranial nerve functions were preserved. Diagnosis on histopathological examination confirmed pleomorphic adenoma of minor salivary gland.

Discussion

The PPS has a complex anatomy, its deep location and relationship with the vital structures renders a surgical challenge. It is anatomically divided into two compartments: pre- and post-styloid.⁴ The pre-styloid compartment mainly contains deep lobe of the parotid gland, minor salivary glands, the internal maxillary artery, and branches of the mandibular branch of the trigeminal nerve, while the retro-styloid compartment contains the internal carotid artery, internal jugular vein, cranial nerves

IX to XII, cervical sympathetic chain, fat and lymph nodes.⁵ Clinical examination of the PPS is difficult; so imaging studies are critical for evaluation of PPS tumour. They usually remain undetected for a long time because of their location. Usually presents as an asymptomatic neck mass or oropharyngeal mass. Pre-styloid PPS tumour produces otitis media, hoarseness, nasal obstruction, dysphagia or dyspnoea; those from the post-styloid compartment may present as speech difficulty, dysphagia, dysarthria or Horner's syndrome due to compression of cranial nerves IX, X, XI and XII.⁸ Cranial nerve palsy, pain or trismus is suggestive of malignancy.⁶

A contrast CT, as well as an MRI, and angiography in selected cases, are vital for diagnosis and for planning the therapeutic approach.⁸ Pre-operative FNAB use is debatable because of its poor sensitivity in confirming the final histopathologic diagnosis.⁴ The surgical approach to this space is controversial,⁷ with the transcervical-trans parotid approach being the most widely used worldwide; however, other surgical approaches have been described such as transoral, transcervical submandibular, modified transcervical (transcervical-trans mastoid, transcervical with mandibulotomy), trans mandibular and lateral approaches to the skull base.⁸ In the case of a large PPS mass, mandibular osteotomy has been advocated for a better exposure of important neurovascular structures in the carotid space. The side effects of mandibulotomies have been a facial scar caused by lip splitting, difficulty in mandibular healing, malocclusion, loss of mental nerve sensation and paralysis of the mandibular branch of the facial nerve. Therefore, avoiding mandibulotomy reduces patient morbidity and hospital stay; food intake can start on the first post-operative day, a better cosmetic result without lip splitting is obtained and tracheotomy is usually not necessary; operating time is also reduced with transcervical or transcervical-trans parotid approach.

Conclusion

In conclusion, PPS tumours are rare and the majority of them are benign. Pleomorphic adenoma of minor salivary gland which itself is a very rare in occurrence can be

seen in ectopic site like PPS and they can present as a huge parapharyngeal tumour. So, although rare but it is a considerable differential diagnosis. As the majority of neoplasms encountered in the PPS are benign, it is essential that any surgical procedure in the PPS be designed to minimize morbidity and mortality. We believe that with the modification of transcervical incision huge tumours as big as 11 x 11 cm (as in our case) can be successfully removed without any significant comorbidities.

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