

# PLEOMORPHIC ADENOMA ARISING FROM ACCESSORY PAROTID TISSUE PRESENTING AS DYSPHONIA

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## Summary

This article describes an unusual presentation of pleomorphic adenoma arising from accessory parotid tissue. A patient who had recently been diagnosed with Parkinson's disease, presented with worsening dysphonia. Magnetic resonance imaging and ultrasound guided core biopsies confirmed the diagnosis and the mass was removed by extra capsular dissection through a lip split mandibulotomy approach. This case confirms the need for careful examination of the oropharynx in patients with pre-existing neurological conditions that develop speech disturbance. It also demonstrates the importance of these imaging techniques in the diagnosis of parapharyngeal lesions.

## Case Report

An 80 year old man presented to his general practitioner with a 3 month history of worsening dysphonia. The patient had been diagnosed with Parkinson's disease 5 months previously but was not yet on any medication. The speech disturbance was assumed to be related to the Parkinson's disease and he was referred by his general practitioner to the speech and language therapy department. A large left pharyngeal mass was discovered (Figure 1) promoting referral to the department of Oral and Maxillofacial Surgery.



Figure 1: Intraoral view demonstrating clinical extent of tumour. Note obliteration of uvula and palatoglossal fold.

Examination confirmed a large left pharyngeal mass crossing the midline and completely obliterating the fauces and uvula. There was some pooling of saliva and his voice was noted to be weak and 'hot potato' in nature. The mass was palpable in the left submandibular triangle but no other masses were noted.

He was referred for magnetic resonance (MR) imaging and ultrasound guided core biopsy. MR demonstrated a 6 x 6 x 4 cm mass arising in the left parapharyngeal space, closely abutting but separate from the deep lobe of the parotid gland-P (Figures 2 and 3).

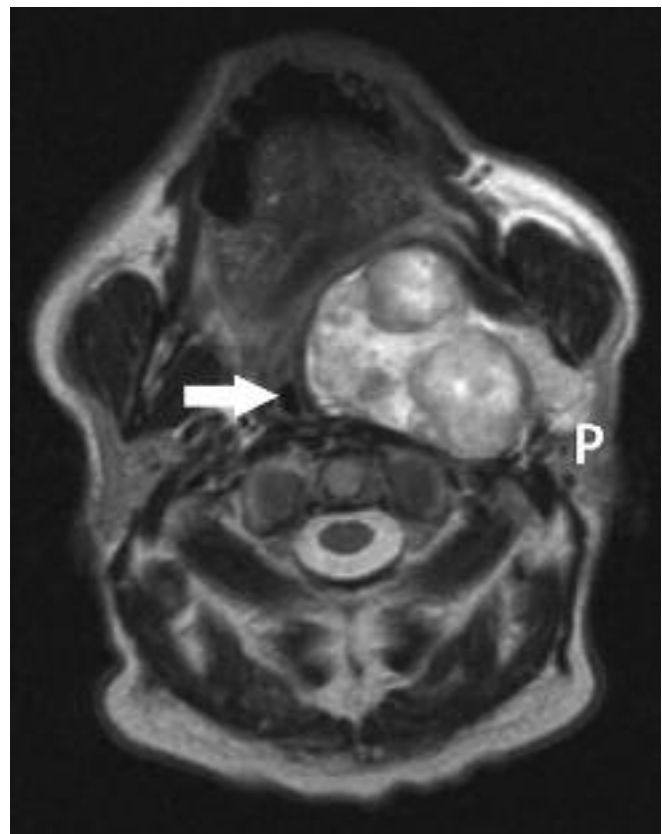


Figure 2: An axial T2 weighted image through the parapharyngeal space. This confirms a circumscribed and septated mass abutting the deep lobe of the left parotid gland (P). Note significant narrowing of the oropharynx (arrowed).

The lesion appeared circumscribed and contained internal septation and fluid components. It enhanced inhomogeneously following administration of intravenous contrast. There was a considerable mass effect, with almost complete effacement of the oropharynx. The imaging features were consistent with those of a probable pleomorphic adenoma arising from accessory parotid tissue. This lesion distorted the adjacent oropharynx and bulged inferiorly into the submandibular space.

Ultrasound examination confirmed the lower portion of the mass could be accessed via the submandibular space and several 18G core biopsies were undertaken via this route which confirmed the diagnosis of pleomorphic adenoma.

The patient was in excellent health despite his age and newly diagnosed Parkinson's disease and was keen for the mass to be removed. Treatment options included; 1. Conservative (non-operative) management. 2. Removal of tumour via external approach. 3. Removal via Intraoral approach via lip split mandibulotomy. After discussing the relative merits of each of these three options, the latter was chosen.

A lip-split incision was marked passing through the lip, around the chin button and passing into a neck skin crease.

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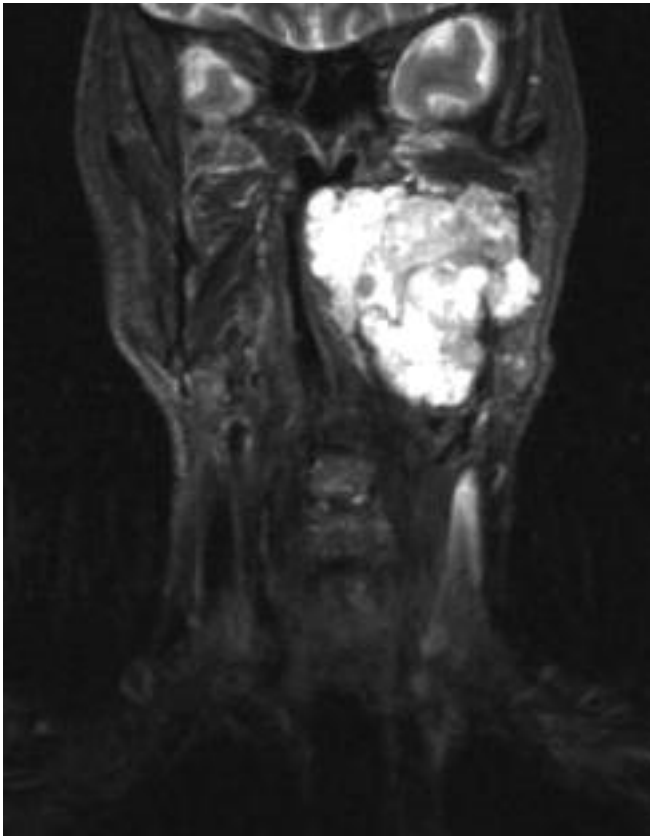


Figure 3: Coronal T2 weighted image through the oropharynx. This demonstrates a large mass of mixed signal. This section demonstrates well the lesion bulging into the oropharynx with inferior extension into the left submandibular region. This submandibular extension allowed ultrasound access for biopsy.

Once the mandible was exposed the mandibulotomy was marked between the roots of the teeth, anterior to, and thus avoiding the mental nerve. 2mm titanium plates were adapted and fixed in their final positions. The plates were then removed and the osteotomy completed. Soft tissue dissection proceeded through the floor of mouth and neck skin to mobilise the mandible and cheek flap. The tumour was delivered by extra capsular dissection (figure 4) and after securing haemostasis the intra oral wound was closed prior to re-fixation of the osteotomy with the pre adapted plates and final skin closure.

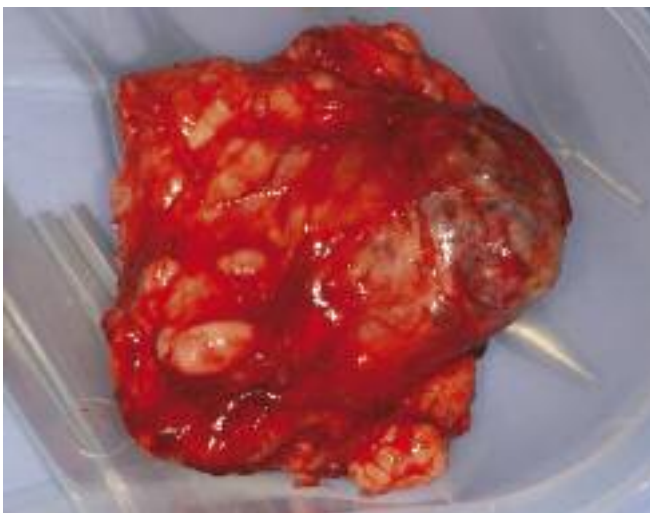


Figure 4: The post operative specimen

Post operative recovery was uneventful and the following morning his speech and swallowing were dramatically improved. He was discharged from hospital two days later and remains well. Histology confirmed a pleomorphic adenoma with complete excision.

## Discussion

Parapharyngeal space masses account for 0.5% of all head and neck tumours and the majority are benign (76%) [1]. Salivary gland neoplasms are the most common parapharyngeal space lesions. They arise mainly from the deep lobe of the parotid gland, and account for approximately 50% of all lesions. Pleomorphic adenomas are the most commonly occurring salivary gland neoplasm. Tumours arising from accessory parotid tissue however, are rare with an incidence of approximately 1% [2]. Other parapharyngeal space lesions include neurogenic tumours, lymphoma, lipomas, haemangiomas and vascular pathology such as aneurysms.

Parapharyngeal masses often present late as symptoms are rare until the mass has grown to an appreciable size. In some cases, they may be an incidental finding on routine examination. Clinical symptoms and signs may depend on the direction of extension of the mass, and include a palpable oral mass, dysphagia, dyspnoea, symptoms related to the Eustachian tube, dysphonia, nasal obstruction, airway obstruction and Horner's Syndrome [1].

MRI is the imaging modality of choice for suspected parapharyngeal space masses. It is superior to Computed Tomography (CT) due to improved contrast resolution, thus allowing better definition of normal anatomic structures and delineation of tumour margins. Multiplanar acquisitions are possible with MR, therefore giving further information on the extension and boundaries of the tumour [3]. Contrast enhancement profiles may help to further characterise the different types of parapharyngeal masses [4]. Pleomorphic adenomas tend to appear hyper-intense on T2 weighting, hypointense on T1 weighting and enhance homogeneously. This high signal appearance on T2 has been attributed to a high myxoid content within the tumour [5]. After gadolinium- DTPA contrast administration, pleomorphic adenomas usually enhance homogeneously [6]. As these tumours enlarge they often appear less homogenous in texture and they may contain calcifications, which are better shown using CT. Ultrasound does not currently have a role in diagnosis of parapharyngeal space masses due to obscuration of the space by overlying structures.

Fine needle aspiration cytology (FNAC) or core biopsy can be performed under ultrasound guidance if the lesion is accessible per-cutaneously, although they can also be performed trans-orally once a vascular lesion has been excluded. Occasionally, open surgical biopsy may be required, although this risks tumour spillage, and the alternative of fine needle biopsy is generally preferable [6].

Treatment of a parapharyngeal space mass depends on the nature of the lesion. Our case has demonstrated the safety and superior access that a lip split mandibulotomy provides over other lingual release procedures in access to the para pharyngeal space [7]. Removing a tumour of this size from an external approach would have been extremely difficult risking tumour rupture and placing the facial nerve at significant risk. The risk of major haemorrhage without adequate proximal control should also be apparent. We feel this gives further support to our approach which gives superior surgical access allowing the tumour to be mobilised with ease and delivered by careful controlled dissection, without oncological compromise and with reduced morbidity [8].

This case confirms the need for careful examination of the oropharynx in patients with pre-existing neurological conditions that develop speech disturbance. It also demonstrates the importance of MR and FNAC in the diagnosis of large parapharyngeal lesions. We have previously demonstrated the safety and accuracy of this technique [9], which is used primarily to rule out non surgical disease such as lymphoma.

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