The Journal of Laryngology & Otology
August 2001, Vol. **115,** pp. 666–667

Idiopathic lymphoepithelial cyst of the parapharynx masquerading as peritonsillar abscess

T. Hung, M.A., F.R.C.S., A. Jacob, F.R.C.S., R. Shahab

Abstract
We present a case of a 38-year-old man who was referred to us with a right-sided quinsy. However he was found to have a large lympho-epithelial cyst in his right parapharynx mimicking the signs of a quinsy to the unsuspecting eye. We describe this case to illustrate an unusual cause of a swelling of the lateral pharyngeal wall.

Key words: Pharynx; Pharyngeal Diseases; Cyst

Introduction

Cystic lesion in the parapharyngeal space is extremely rare. The diffferential diagnosis for swellings in the parapharynx are tumours and inflammation. The parapharyngeal space is bounded medially by the fascia of the pharynx, laterally by the pterygoid muscles and the sheath of the parotid gland.[1] It extends upward to the base of the skull but does not extend inferiorly below the level of the hyoid bone as it is limited by the sheath of the submandibular gland. Posteriorly, this space is directly continuous with the carotid sheath. Anteriorly, it communicates with the spaces surrounding the floor of the mouth. The major consequence of the anatomy of the parapharyngeal space is that lesions expanding within it have greater freedom to grow medially and inferiorly. Lesions of the parapharyngeal space commonly present with a bulge in the lateral pharyngeal wall.

Case report

A 38-year-old healthy Caucasian male presented to the Ear, Nose and Throat Department with a presumed diagnosis of a right-sided quinsy. He had experienced a four-week history of sore throat and discomfort in the right side of his throat. His General Practitioner had treated him with a one-week course of amoxycillin without any signs of improvement. He then began to experience some difficulty swallowing.

On admission, he was afebrile and there were no systemic signs. There was no obvious neck swelling on inspection or palpation. Examination of the oropharynx showed a marked medial displacement of the right tonsil. Fibreoptic nasendoscopy showed the swelling occupied the whole of the right side of the pharynx. Further ENT examination was unremarkable. The right parotid gland looked and felt normal. The rest of the cranial nerves were normal. His full blood count and erythrocyte sedimentation rate were normal. An urgent computed tomogram (CT) of the head and neck was requested.

The CT scan showed a 4 cm thick-walled mass with a low density centre (Figure 1). It occupied the right parapharyngeal space extending to the retropharyngeal space. It was anterior to the longus collis, anteromedial to the carotid sheath and deep but separated from the right parotid gland.

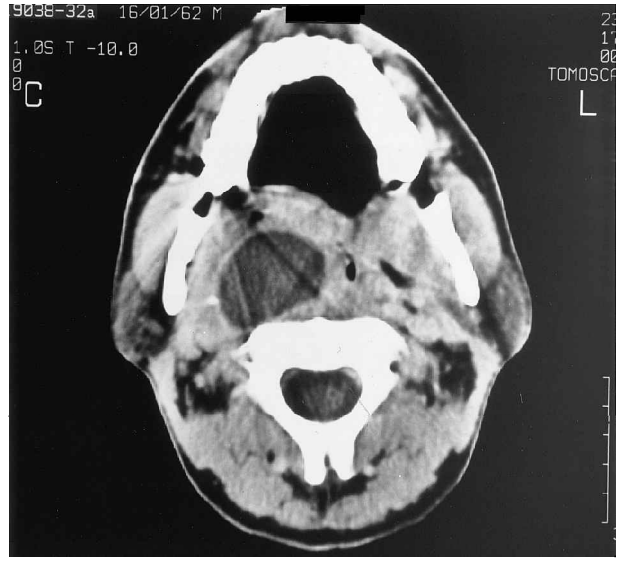

Fig. 1
CT showing a thick-walled mass with a low density centre occupying the right parapharyngeal space.

The parapharyngeal swelling was cautiously decompressed by needle aspiration and 35 ml of cloudy fluid obtained. The aspirate was found to have some epithelial cells, neutrophils and polymorphs. There was no malignant cells and bacterial growth.

The patient was given prophylactic co-amoxiclav for two weeks. He symptomatically improved initially. However, during post-treatment week two, he complained of the return of his sore throat for two days. Examination showed reaccumulation of the right parapharyngeal swelling, which was confirmed on CT. The patient consented to exploration of the neck and excision of the parapharyngeal mass.

From the Department of Otolaryngology, Medway Maritime Hospital, Kent, UK.
Accepted for publication: 26 February 2001.

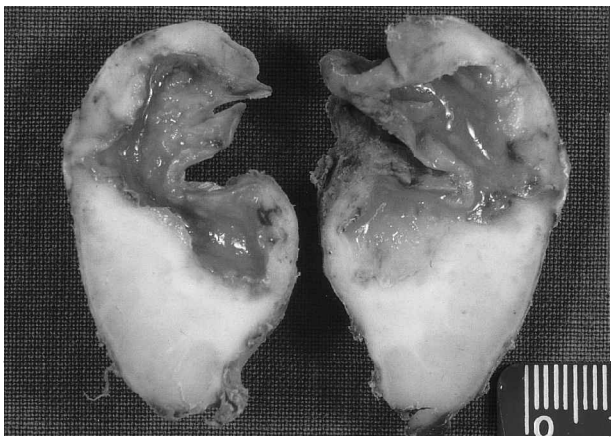

FIG. 2
The surgical specimen showing a lympho-epithelial cyst with thick wall.

A transcervical approach was used where a skin crease incision was made at the level of the hyoid bone. The anterior border of the sternocleidomastoid muscle and carotid sheath was identified. The common carotid artery and the internal jugular vein were fully mobilized and taped. The parapharyngeal space was entered and the lower cranial nerves were identified. A cystic mass ($4 \times 2.5 \times 2$ cm) was enucleated off in its entirety from the parapharyngeal space (Figure 2).

Histological examination showed the cyst was lined by benign squamous epithelium showng focal keratinization. The lumen contained a mixture of keratin and inflammatory debris. The wall was thick and collagenous and contained a prominent lymphoid infiltrate. The histological picture was of an idiopathic lateral lympho-epithelial cyst.

The patient developed transient neurological dysphagia for three days post-operatively due to neuropraxia of the glossopharyngeal nerve. This fully recovered by day four, and he was discharged. He remains symptom-free three months after discharge.

Discussion

The lateral lympho-epithelial cyst has been called branchial cyst and lateral cervical cyst. King challenged the developmental theories of the genesis of the lateral cervical cyst in 1949.[2] First, the *brachial apparatus hypothesis* suggests that branchial cysts represent the remains of branchial pouches or clefts. According to this theory, cysts arise from the first pouch and have an internal opening between the bony and cartilaginous parts of the external meatus, or from the second pouch, opening at the posterior pillar at the base of the tonsil. If this theory were correct, lateral cervical cysts should be more common at birth. However, the peak age of incidence is the third decade, which is late for congenital lesion. Second, the *pre-cervical sinus* hypothesis suggests that branchial cysts represent remains of the cervical sinus of His, which is formed by the second arch growing down to meet the fifth. Third, the *thymic duct hypothesis* suggests cysts are remnants of the original connection between the thymus and the third branchial pouch from which it takes origin. As a persistent thymic duct has never been described and branchial cyst has never been reported deep to the thyroid gland, the hypothesis is a speculation.

King suggested that the lateral cervical cysts are found over a relatively wide area and related more closely with lymphoid tissue.[2] The term 'branchial cyst' should be replaced by the term 'lateral lympho-epithelial cyst'. In fact, 97 per cent of the branchial cysts have lymphoid tissue present in their wall. It was suggested that these cysts arise as epithelial inclusion with cervical lymph nodes.[3] Wild *et al.* found the 'branchial cyst' epithelial linining has a homologous keratin pattern to that of the upper digestive tract.[4] They propose that the cyst is acquired by epithelial cells which migrate to a lymph node from the crypts of the palatine tonsils or the tongue base. A cystic space can be induced by those epithelial cells.

Lymphoepithelial cyst of the parapharynx is extremely rare. It has presented as a pushing mass of the lateral pharyngeal wall. The more common lesions of such a pushing mass are abscess and tumour. However, the clinical presentation of our patient is atypical of those conditions as he was a young non-smoker and clinically well.

We found CT and diagnostic aspiration of great help in guiding the management. Som *et al.* reported the CT and MRI findings of nodal inclusion cysts of the parotid gland and the parapharyngeal space.[5] They suggest imaging clearly identifies those cysts and may suggest a specific diagnosis; however, the precise diagnosis remains in the domain of the pathologists.

The treatment for the more common 'branchial cysts' of the neck is excision when those lesions are superficial and easily accessible. We chose to perform diagnostic aspiration initially to exclude malignancy and infection because the parapharyngeal space was relatively inaccessible. Shaheen had performed aspiration of the branchial cyst of the nasopharynx as a mode of treatment.[6] However, most cases of branchial cyst underwent excision regardless of accessibility.[7]

References

1 Maran AGD, Mackenzie IJ, Murray JAM. The parapharyngeal space. *J Laryngol Otol* 1984;**98**:371–80
2 King ESJ. The lateral lympho-epithelial cyst of the neck. *Aust NZ J Surg* 1949;**19**:109–22
3 Bhaskar SN, Bernier JL. Histogenesis of branchial cysts: a report of 468 cases. *Am J Pathol* 1959;**35**:407–23
4 Wild G, Mischke D, Lobeck H, Kastenbauer E. The lateral cyst of the neck: congenital or acquired? *Acta Otolaryngol* 1987;**103**:546–50
5 Som PM, Brandwein MS, Silvers A. Nodal inclusion cysts of the parotid gland and parapharyngeal space. *Laryngoscope* 1995;**105**:1122–8
6 Shaheen OH. Two cases of bilateral brachiogenic cysts of the nasopharynx. *J Laryngol Otol* 1961;**75**:182–6
7 Shidara K, Uruma T, Yasuoka Y, Kamei T. Two cases of nasopharyngeal cyst. *J Laryngol Otol* 1993;**107**:453–5

Address for correspondence:
Mr Terry Hung, M.A., F.R.C.S.,
16 St Clements Mansions,
Lillie Road,
Fulham,
London SW6 7PG, UK.

Fax: +44(0)20 7381 8432

Mr T. Hung takes responsiblity for the integrity of the content of the paper.
Competing interests: None declared