

Per-oral excision of a pharyngeal branchial cyst after MRI study

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Abstract

A per-oral approach to pharyngeal branchial cysts is possible, and ideal when they are placed medially to the pharyngeal constrictors and no fistular duct is connected to the mass.

At present MRI is found to be the best means of achieving the correct diagnosis of morphology and site.

Key words: Branchioma; Pharynx; Magnetic resonance imaging

Introduction

Cystic pharyngeal swellings have been reported in the literature since 1890 (Mayer, 1840 and 1842), two years after the description of the Rathke's pouch. Since then many cases have been

described but only a few of them were studied and treated properly at the first approach.

Considering the latest reports of pharyngeal branchial cysts, it is possible to guess that undervaluation is sometimes the likely cause of the improper management of this affliction (Rizzi, 1959; Canty and Dogra, 1978; Boysen *et al.*, 1979; Takimoto *et al.*, 1989).

The lack of specific symptoms (sore throat, nasal obstruction, middle ear otitis, dysphagia, etc.); the site of development – tonsillar region between palato-pharyngeal fold and eustachian tube (Gill, 1950; Nicolai *et al.*, 1989); the easy surgical approach to the pharynx, especially to its oral part, allows the physician to try to solve the patient's problem without having previously made a correct and complete diagnosis.

This is why the rate of clinical complications is relatively high for this disease, mostly represented by recurrence and inflammation (Guggenheim, 1967; Boysen *et al.*, 1979).

From the aetiological point of view, its branchial origin (the second cleft) is still a matter for study and discussion (Proctor, 1955; Singh and Pahor, 1977; Nicolai *et al.*, 1989).



FIG. 1

Per-oral view of the cystic mass arising from the left side of the pharynx behind the tonsil.



FIG. 2

Coronal MRI scan of the head, showing the cyst of the pharynx, displacing the left tonsil. The enhancement of the cyst is due to T1 scanning. MRI was performed in spin-echo with short TR and TE. No dye was used.

Accepted for publication: 10 April 1993.

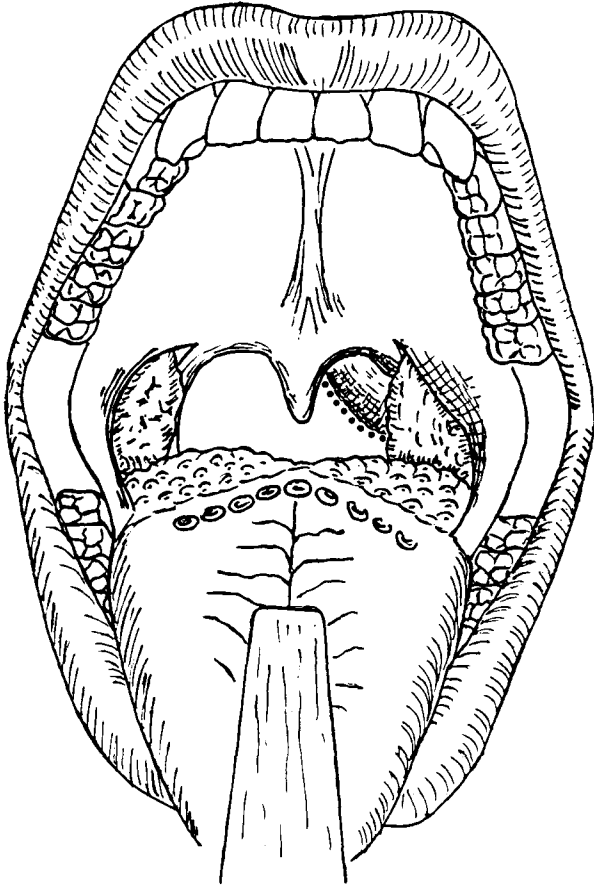


FIG. 3

Diagram of the pharynx showing the incision line (dotted), which exposed the medial and lower part of the cyst (diagram modified with permission from: S. Legent, L. Perlemuter, C. L. Wandenbrouck, Cahiers D'Anatomie ORL, Masson 1986).

Case report

A 27-year-old housewife complained of a sore throat for seven months.

A cystic swelling of the oropharynx was visualized and drained by puncture many times but the symptoms always recurred together with the pharyngeal mass.

At last she was admitted at the IInd Clinic of Otorhinolaryngology of the University of Perugia, at Terni. On endoscopic examination a smooth submucosal swelling was found,



FIG. 5

Endoscopic picture of the pharynx after surgery. An adhesion (1 cm in length) is present in the upper part of the left side of the oropharynx.



FIG. 4

Photomicrograph showing the wall of the cyst, formed by squamous epithelium, lying over the chorion, presenting diffuse lymphoid infiltration. x20.

arising from the left side of the oropharynx, just behind the left palato-pharyngeal fold (Figure 1). No mass was detected on neck palpation. Pure tone audiogram and tympanometry with cochleo-stapedial reflex recording did not show any threshold impairment.

MRI confirmed the endoscopic evidence of a cystic mass, arising from behind the left palato-pharyngeal fold and partially occluding the same side of the epipharynx (Figure 2).

Twenty millilitres of fluid were aspirated from the cyst and were studied both for cytology and microbiology. The former



FIG. 6

Coronal MRI at six months. The scan was performed with the same parameters as the previous one. It shows clearly the complete excision of the cyst and the good anatomical result.

revealed the presence of squamous and lymphoid cells, consistent with a branchiogenic cyst; the latter was negative for infection.

Surgical excision of the cyst was performed using an intra-oral approach. A Dingmann mouth gag was positioned to expose the surgical field. After incising the lower and medial margin of the pharyngeal swelling, the mass was isolated and removed by blunt dissection without damaging the capsule (Figure 3). Haemostasis was secured with 1/0 chromic catgut ties. A nasogastric feeding tube was inserted and kept in place for seven days.

The histological examination of the cyst gave the same results as the cytological diagnosis (Figure 4).

Thirty days after surgery and six months later the patient was examined endoscopically and by MRI. This showed complete removal of the cyst and an adhesion, 1 cm in length, between the pharyngeal wall and the upper part of the left posterior pillar (Figures 5 and 6).

No complicating symptoms such as dysphagia, rhinolalia or snoring were reported and palato-pharyngeal motility was normal.

Discussion

The per-oral approach to pharyngeal branchial cysts is the easiest way to remove the mass if it is placed medially to the pharyngeal constrictor muscles and is not connected to any fistular duct (Dilkes *et al.*, 1990). MRI is of the utmost importance in achieving a better diagnostic localization.

Previous inflammation of the cyst can sometimes cause the cystic capsule to adhere to the pharyngeal constrictors and cause post-operative adhesions.

Apart from the low rate of functional alteration of velar and pharyngeal motility, due to small adhesions, the easy surgical treatment of this condition makes this approach by far the safest and the easiest.

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