

The pharyngocele: infrequently encountered and easily misdiagnosed

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Abstract

A pharyngocele is a rare condition. According to the literature and our own experience it is usually not recognized or is mistaken for a laryngocele.

A short review of the literature, a description of the condition and three cases are reported.

Key words: Pharyngocele; Laryngocele

Introduction

Pharyngoceles are rare and seldom described. A review of the literature and our own experience reveals however, that a pharyngocele occurs more commonly than expected. Over a two-year period Norris (1979) saw 24 patients with this condition and Wilson (1962) suggested it was not uncommon if looked for, especially in the elderly. Other authors (Ward *et al.*, 1963; Mantoni and Ostri, 1987; Obana and Fee, 1987) on the other hand called it a very rare condition. In the literature many terms are used for this condition, such as Zenker's diverticulum or branchial clefts, cysts and fistulas. We use the term pharyngocele as described by Norris (1979).

From an anatomical view the pharynx has two weak areas on both sides. The superior area lies at the junction of the superior and middle pharyngeal constrictor muscles. Intraluminally, this area is located in the region of the inferior pole of the tonsil at the lateral side of the vallecula. The inferior area is located between the middle and inferior pharyngeal constrictor muscles and the thyrohyoid membrane. Intraluminally this area is located in the region of the base of the piriform fossa.

A pharyngocele is a local bulging through one of the weak areas of the pharynx aggravated by an increased air pressure in the pharynx. Patients with a pharyngocele are usually in their fifth or sixth decade of life but it can occur in young adults as well. Two factors are considered relevant: loss of elasticity of the muscles with aging and increased intrapharyngeal pressure. The sex ratio, male:female is between 3:1 and 8:1. Patients with a pharyngocele have a variety of symptoms, but presenting symptoms are usually dysphagia, pain in the neck, weight loss, regurgitation, dysphonia and the presence of a neck mass. These symptoms can also be caused by a Zenker's diverticulum or a laryngocele.

Case reports

Case 1

An 18-year-old man, was referred to our Outpatient Department in 1988. He had been playing the trumpet for many years and progressively bilateral neck masses had developed which were visible during his trumpet playing and were causing a stinging pain.

Once this patient had become short of breath and fainted while playing the trumpet. He had no other ENT symptoms. Physical

examination revealed bilateral external neck masses which appeared with increased intrapharyngeal pressure during Valsalva's manoeuvre.

Indirect laryngoscopy showed a wide piriform sinus on both sides. An X-ray (antero-posterior view) of the neck during increased intrapharyngeal pressure showed an air-containing bulging on both sides of the neck (Figure 1). The lesion was diagnosed as a laryngocele. A CT scan was carried out for further evaluation. This showed a normal anatomy with bulging of the piriform sinus and thyrohyoid membrane in Valsalva's manoeuvre (Figure 2). The CT scan initially seemed to confirm the diagnosis of a laryngocele but after re-evaluation of the CT scan and after flexible laryngoscopy during Valsalva's manoeuvre this diagnosis proved incorrect. A laryngocele is an air-containing prolongation of the laryngeal ventricle and saccule, a pharyngocele, originates from the membranous walls of the hypopharynx (Figure 3). The pharyngocele caused bulging of the thyrohyoid membrane.

We advised the patient to refrain from playing the trumpet.

Case 2

A 50-year-old man, was seen as an outpatient in 1990. He complained of mild dysphagia and for four months had had a small swelling on the right side of his neck, just above the thyroid cartilage lamina, which could be pushed back. During increased intrapharyngeal pressure the swelling increased slightly. An X-ray (antero-posterior view) of the neck during increased intrapharyngeal pressure showed an air-conditioning bulging on both sides of the neck. A CT scan was performed and the diagnosis of a laryngocele was made. This patient underwent surgery and during the operation a thyroglossal cyst was found and extirpated. Histological examination confirmed this diagnosis.

The initial diagnosis of a laryngocele was reconsidered, the CT scan and X-rays reviewed and it became apparent that there was a small pharyngocele on both sides which was not seen during the operation because of lack of inflation. The thyroglossal cyst was purely coincidental. In fact the pharyngocele was not treated.

Case 3

A 45-year-old woman, visited our Outpatient Department in 1991. For 10 years she had had the sensation of a lump in the throat continuously and as a result tried to clear her throat frequently. She also regularly experienced regurgitation of

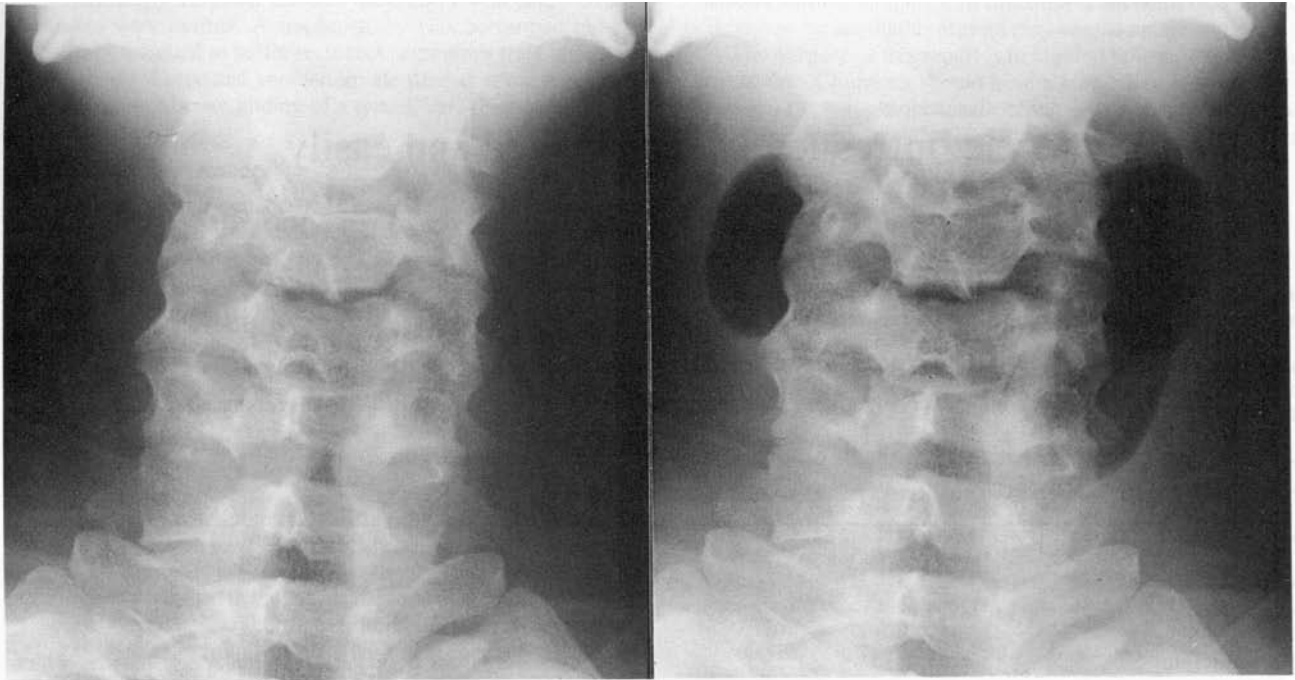


FIG. 1
Anterior view of *Case 1* without (left) and with (right) increased intrapharyngeal pressure.

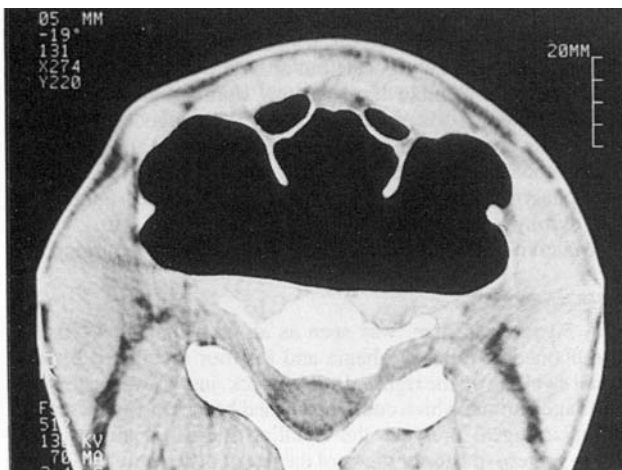


FIG. 2
CT scan of *Case 1*: an axial section through the vallecula and thyrohyoid membrane.

undigested food. She had no dysphagia and no dysphonia. Fibreoptic laryngoscopy while performing the Valsalva manoeuvre revealed a pharyngocele with a diameter of 2 cm containing fluid. A barium swallow X-ray confirmed the diagnosis of a pharyngocele. No surgery was performed in view of the minimal discomfort the pharyngocele was causing.

Discussion

The above cases confirm reports in the literature (Norris, 1979) that a pharyngocele can be misdiagnosed as a laryngocele. The main reasons are the infrequent encounter with this uncommon condition and a partial overlap of presenting symptoms. Also radiologists can initially give the wrong diagnosis as for *Cases 1* and *2*. The patient in *Case 3* visited our Outpatient Department after we had just studied the literature on pharyn-

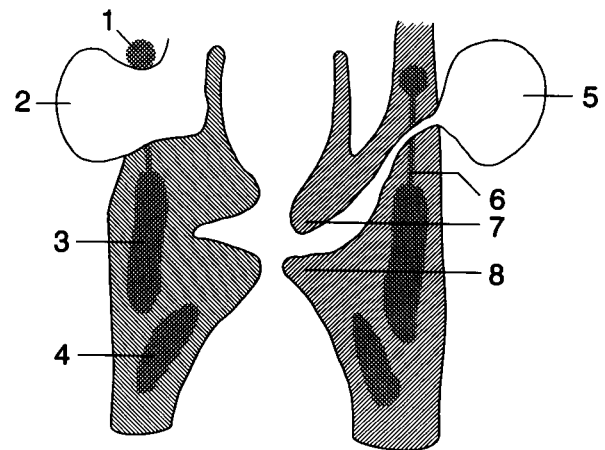


FIG. 3

Diagrams showing the difference between a pharyngocele and a laryngocele. 1: hyoid, 2: pharyngocele, 3: thyroid, 4: cricoid, 5: external laryngocele, 6: thyrohyoid membrane, 7: vestibular folds, 8: vocal folds.

goceles. In her case the correct diagnosis was made swiftly and without elaborate investigations.

The diagnostic tools we recommend are fibre optic laryngoscopy and a barium swallow X-ray, carried out while performing Valsalva's manoeuvre.

In the literature the recommended treatment of a pharyngocele varies (Ward *et al.*, 1963; Norris, 1979; Komisar, 1983). Conservative treatment consists of healthy dietary habits, oral hygiene, to prevent large bacterial growth, and avoidance of increased intrapharyngeal pressure. Surgical therapy by excision of the pharyngocele via an external approach can also be considered. Conservative therapy, however, was sufficient for our patients.

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