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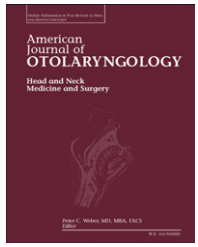

Hypopharyngeal venous malformation presenting with foreign body sensation and dysphagia

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ABSTRACT

Objective: Review the importance of imaging selection and clinicoanatomic correlation for a vascular malformations presenting with unique symptomatology.
Methods: Case study and literature review.
Results: A 64-year-old female presented with globus and dysphagia ongoing for 40 years. Esophagogastroduodenoscopy discovered a hypopharyngeal mass. A CT scan showed a soft tissue mass with shotty calcifications. Flexible laryngoscopy revealed a bluish compressible mass. MRI showed T2 hyperintensity with heterogeneous enhancement resulting in the diagnosis of a low-flow vascular malformation.
Conclusions: All globus is not equal. Attention to symptoms, anatomy, and imaging selection is crucial for the diagnosis and treatment of vascular malformations uniquely presenting with dysphagia.

1. Introduction

Vascular anomalies, including vasoproliferative/vascular neoplasms and vascular malformations remain a diagnostic and therapeutic challenge. Unlike vascular neoplasms, vascular malformations are composed of abnormally formed vascular channels lined by endothelium that do not exhibit abnormal cellular turnover or mitosis. Vascular malformations are congenital lesions that never regress and grow proportionally with time, trauma, and/or hormonal changes. Vascular malformations may be of the low-flow variety, including capillary malformations (CM), venous malformations (VM), and lymphatic malformations (LM), or of the high-flow variety, including arteriovenous malformations (AVM). In the head and neck, venous malformations (VM) are the third most common vascular mass and may be seen within the muscles of mastication, lips, tongue, or elsewhere within the upper aerodigestive tract. Imaging is critical in the diagnosis and management of vascular malformations. See Table 1 for the importance of imaging selection for each vascular malformation subtype [1].

Here we report on a patient with chronic dysphagia found to harbor a large hypopharyngeal low-flow vascular malformation. We highlight the importance of imaging selection and the dictums of long-term management.

2. Case report

A 65-year-old retired teacher presented with a history of globus and dysphagia since she was twenty years old. She has always had problems with swallowing pills and intermittently

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Table 1 – Imaging of vascular malformations.

Malformation	Importance of imaging
Capillary	Imaging usually not needed unless V1 (ophthalmic division of trigeminal nerve) or midline distribution to rule out leptomeningeal involvement
Venous	MRI most useful, small lesions may need formal angiogram to fully characterize
Lymphatic	Ultrasound/color flow Doppler; helps to identify characteristic cystic appearance; MRI is useful to evaluate extent of disease
Arteriovenous	Ultrasound and MRI to identify high flow pattern as well as lesion extent. CT can be helpful especially for bony AVMs and angiography can assist in identifying feeding and draining vessels prior to therapeutic intervention

finds difficulty with solid foods. She otherwise has a history of GERD for which she takes a proton pump inhibitor and antacids. Her social history includes 1 glass of wine daily and an 8 pack-year smoking history, a habit she quit approximately 30 years ago. Extensive work-up at an outside facility including esophagogastroduodenoscopy led to the discovery of a hypopharyngeal mass. A CT scan revealed 3 × 1.5 cm soft tissue mass in posterior midline hypopharynx with shotty calcifications, and small bilateral cervical lymph nodes. The initial radiological interpretation raised concern for malignancy (Fig. 1).

Flexible fiberoptic laryngoscopy revealed a bluish hued lesion at posterior hypopharynx, at the level of the vocal cords. This lesion appeared partially compressible with swallow and hyolaryngeal elevation (Fig. 2). An MRI was obtained which demonstrated T2 signal hyperintensity as well as heterogeneous contrast enhancement suggestive of a low-flow or mixed vascular malformation (Figs. 3–6). This further demonstrated the trans-spatial nature of these lesions, which tend to traverse fascial planes as opposed to causing local distortion and mass effect as can be seen with malignancies. Further review of the CT scan at our institution recognized the calcifications as phleboliths, a pathognomonic feature of venous malformations. The combination of our examination and these imaging features solidified the diagnosis of a hypopharyngeal venous malformation.

3. Discussion

VMs are the most common type of vascular malformation with an incidence of 1–4%. VMs tend to grow proportionally with age and often increase in size with hormonal changes, such as in puberty. They tend to undergo thrombosis resulting in the pathognomonic radiologic signs of phleboliths, intralesional calcifications. Ultrasound is a good imaging modality if the lesion is accessible, but MRI tends to be the most useful modality to characterize the full extent of disease as they often are intimately associated with adjacent musculature and

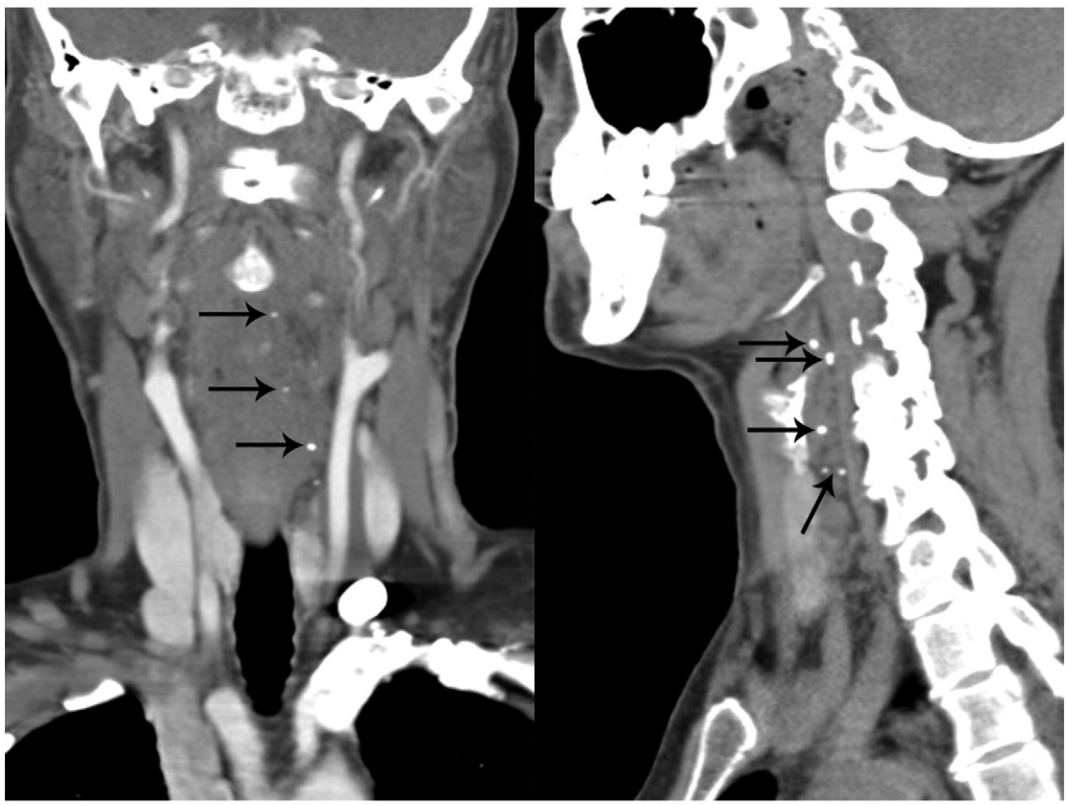

Fig. 1 – Coronal and sagittal contrast-enhanced CT images — multiple, small, round calcifications in the hypopharynx and left carotid sheath, consistent with phleboliths and strongly suggestive of a low-flow venous malformation.