

Figure 1. CT findings (axial; coronal and sagittal views) with an expansive lesion, with lobulated contours, cystic/with necrosis, involving the right lateral wall of the hypopharynx, involving the piriform sinus circumferentially and measuring approximately 33 × 20 mm.

A laryngeal CT scan was performed, which confirmed the presence of an expansive lesion, with lobulated contours, heterogeneous, cystic/with necrosis, involving the right lateral wall of the hypopharynx, including the piriform sinus circumferentially and measuring approximately 33 × 20 mm, whose caudal pole reaches the plane of the cricoarytenoid joint, surrounding the ipsilateral aryepiglottic fold. It infiltrates the posterior wall of the hypopharynx and crosses the midline at this level, increasing the arytenoid distance. Bilateral pre-epiglottic and paraglottic fat was conserved. Invasion of the right thyroid cartilage could not be excluded, given the demineralization found. Absence of suspicious cervical ganglions (Figure 1).

It was proposed for biopsy and/or excision of the lesion.

A mucosal incision was made and a submucosal encapsulated and well-delimited fibroelastic lesion, at the level of the right piriform sinus, was isolated, with cold instruments, without interurrences. A lesion measuring about 2.5 cm was removed (Figure 2). No perioperative and postoperative complications were seen.

The histological study showed a nodular fragment with hyaline replacement and central cavitation, with hematic fibrin clots, suggesting a clot/thrombus undergoing recanalization (Figure 3).

No major complaints in the postoperative period. Follow-up of 6 months with no signs of recurrence.



Figure 2. Macroscopic lesion.

Discussion

The authors presented a clinical case where a mass lesion of the larynx was found as an incidental finding. The histological result was revealed to be a thrombus undergoing recanalization with almost 3 cm. The etiology of the thrombus or of the hemorrhagic process was unknown. Neither specific complaints nor CT scan findings helped clarify the etiology. The only etiological suspicion was previous attacks of severe coughing.

There are several possible differential diagnoses when facing a mass lesion in the hypopharynx/larynx including,

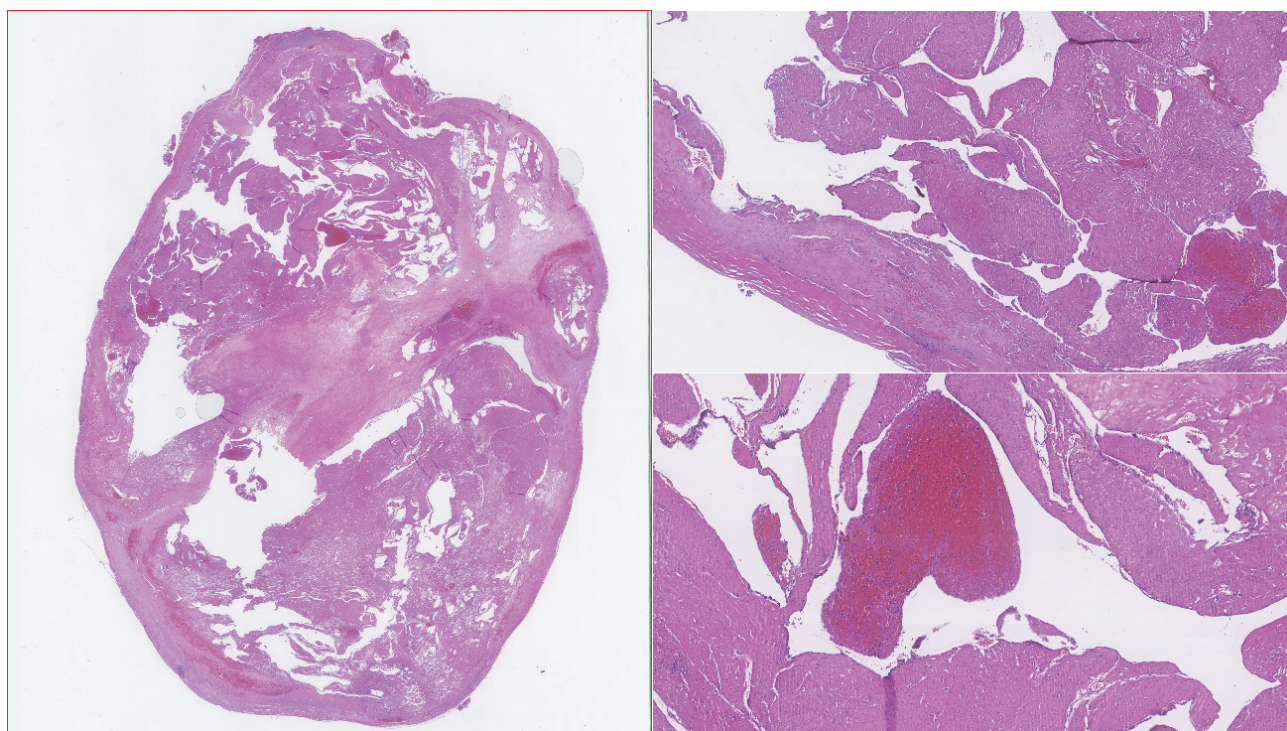


Figure 3. Histologic findings with a nodular fragment with hyaline replacement and central cavitation, with hematic fibrin clots, suggesting a clot/thrombus undergoing recanalization.

but not limited to, infective processes, vascular anomalies, external compression, foreign bodies, and benign or malignant tumors [1].

No foreign bodies were found in the CT, excluding this possible etiology in this particular case.

Inflammatory diseases can include acute and chronic laryngitis. No specific manifestations or CT findings conducted us to the most common inflammatory conditions, so we have to equate less common diagnoses that comprise, e.g., ulcero-membranous laryngitis, as diphtheria and the ulcero-membranous Plaut-Vincenti disease. Other rare causes include laryngeal tuberculosis, leprosy as well as laryngeal syphilis, which are nowadays mainly found in tropical and subtropical areas [1,2]. All these conditions compromise laryngeal mucosa, which was not involved in the presented case.

With regard to benign tumors, taking into account the non-mucosal involvement, as well as taking into account the rarer forms, which could not be easily identified in the physical and imagological examination, we have to consider as a differential diagnosis pleomorphic adenomas, chondromas, lipomas, rhabdomyomas, schwannomas, or paragangliomas.

Pleomorphic adenomas are mostly located in the supraglottis, subglottis, and trachea. They originate from the seromucous glands presenting as painless submucous masses, slowly growing. Lipomas are also slow-growing, well-circumscribed benign tumors of mesenchymal origin. Rhabdomyomas at the larynx mostly originate from the vocalis muscle but they may also affect the outer

laryngeal muscles and usually appear as isolated findings. Paragangliomas are benign neuroendocrine tumors of the extra-adrenal chromaffin tissue of the autonomous neuronal system. They are mainly found in the supraglottic (90%) or subglottic area as a painful mass and are associated with the superior and inferior laryngeal nerves, counting for 0.6% of all laryngeal tumors.

Schwannomas belong to the group of neurogenic tumors and originate from Schwann cells. Although there are different possible locations, aryepiglottic fold and the arytenoid region, pre-epiglottic space, or paraglottic space are the most common places. Its origin is branches of the superior and inferior laryngeal nerve. Chordomas and chondrosarcomas are tumors of the laryngeal framework (mostly from the luminal side of the cricoid plate), with an incidence of less than 1%. Clinically, the tumors impose as hard, often spherical masses growing inward and outwardly and covered by regular mucosa. Mostly males and adults younger than 50 years are affected [1-3]. In most cases, only excision and/or biopsy with histological study can make the diagnosis.

Another differential diagnosis corresponds to vascular lesions. Among those, we have to consider hemorrhagic lesions and vascular malformations. As vascular malformations, we can consider arteriovenous malformations as vocal fold vascular lesions, carotid space abnormalities as aneurysms/pseudoaneurysms, and other vascular anomalies as pulmonary artery enlargement, aortic aneurysms, aberrant subclavian arteries, or patent ductus arteriosus aneurysms. In this case, the CT scan did not show any

contrast enhancement, characteristic of a vascular pathology, or any communication between the lesion and a vascular structure. Most of the hemorrhagic lesions of the larynx are created by phonotrauma due to subepithelial bleeding. Cough can also be an important traumatic mechanism. There can be cases where there is a loss of blood through the mucous membrane of the larynx, and in which the main symptom is hemoptysis and there can be cases where hemorrhage results in an extravasation of blood into the tissues beneath the mucous membrane. They can be secondary to inflammation or to necrosis. This was the most probable cause in our patient.

Conclusion

This clinical case reports a thrombotic/thromboembolic laryngeal mass never described before, as far as written literature describes. Despite being a benign condition, there were diagnosis difficulties. Clinical history or imaging examination contributed little to the diagnosis.

Despite the successful identification of the thrombotic/thromboembolic laryngeal mass, there were diagnostic challenges. The main limitation of the study was the fact that the final diagnosis was made only after surgery and today we cannot know whether there could eventually be a spontaneous resolution and/or reabsorption of the hematoma without the need for any surgical procedure.

What is new?

The authors present a rare case report of a laryngeal mass of hematologic origin. To the best of their knowledge, no other case has been described so far.

Conflicts of interest

The authors declare that they have no conflict of interest regarding the publication of this case report.

Funding

None.

Consent for publication

Written consent was obtained from the patient.

Ethical approval

Ethical approval is not required at our institution to publish an anonymous case report.

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Summary of the case

1	Patient (gender, age)	69-year-old ; male
2	Final diagnosis	clot/thrombus
3	Symptoms	slight laryngeal/hypopharyngeal foreign body sensation; incidental finding
4	Medications	none
5	Clinical procedure	Surgical biopsy and/or excision of the lesion
6	Specialty	ENT / Otolaryngology