



Case Report

Adult Laryngeal Hemangioma

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Abstract

Adult laryngeal hemangioma is rare, and very few reports of such lesions restricted to the aryepiglottic fold have appeared in the medical literature. We report a hemangioma located over the left aryepiglottic fold in a 57-year-old man. This patient had experienced a lump-in-the-throat sensation for 1 year but complained of no other symptoms. On laryngoscopy, a lobulated dark-red mass was seen over the left aryepiglottic fold. A potassium-titanyl-phosphate laser excision was performed smoothly without complications. The 6-month postoperative follow-up showed good results with no recurrence. An adult supraglottic laryngeal hemangioma is rare and can be treated successfully with a KTP laser. (*Tzu Chi Med J* 2010;22(4):237–240)

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1. Introduction

Hemangioma is not uncommon and presents as the most common infantile tumor, but it is rare in adults (1). The incidence of this tumor is higher in the head and neck region among patients of all ages (2). The tumor is self-limited and resolves in approximately half of children by 5 years of age, and resolves further with age. In contrast, in adults, hemangioma is rare and does not regress spontaneously (3). The manifestations depend on the lesion's site, and the morphology also introduces potential complications (4). Whenever the aerodigestive tract is involved, clinical presentations such as bleeding, airway compromise, or dysphagia should be anticipated. Even though there is no elucidative prognosis with/without a surgical procedure, the management goal lies in prevention of life-threatening complications. In this report, we present a patient with a cavernous hemangioma of the left aryepiglottic fold.

To the best of our knowledge, very few such cases have been reported in the medical literature.

2. Case report

A 57-year-old man came to our hospital for a routine health examination. On physical examination, a lobulated dark red tumor was found over the left aryepiglottic fold (Fig. 1). He reported a persistent sensation of a lump in the throat for 1 year. But since it had not become worse, he had not sought any medical therapy. The patient did not have symptoms such as dysphagia, odynophagia, choking, oral bleeding, hemoptysis, or dyspnea. The medical history showed nothing significant. He had no history of smoking or alcohol use. As we were concerned about the risk of spontaneous rupture or airway compromise if the hemangioma of the larynx was left untreated, surgery was recommended.

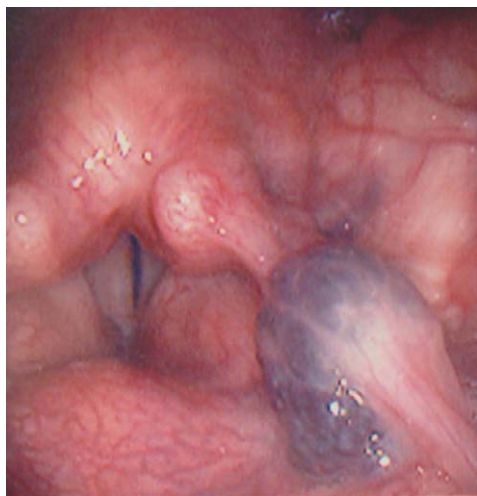


Fig. 1 — Preoperative view shows a lobulated dark red tumor over the left aryepiglottic fold.



Fig. 2 — Postoperative view shows formation of fibrin 1 week after surgery.

One week later, laryngomicrosurgery was performed under general anesthesia, and the hemangioma was completely removed with a potassium-titanyl-phosphate (KTP) laser. The tumor was grasped with a cup forceps to expose its wide-based stump. It was coagulated around its stump without excessive bleeding. Then, the stump was coagulated again at low power (4 watts) without injuring the false cord or the vocal ligament. A small cotton ball soaked with epinephrine was used to stop bleeding, and the minimal oozing that remained was easily controlled by compression and cauterization. He was discharged 1 day later and followed-up regularly thereafter. His postoperative course was very smooth, and no recurrence was noted over the subsequent 6 months (Figs. 2 and 3).

The histologic results showed a hemangioma with increased density, blood-filled abnormally dilated and



Fig. 3 — Postoperative view shows formation of smooth mucosa covering the site 1 month after surgery.

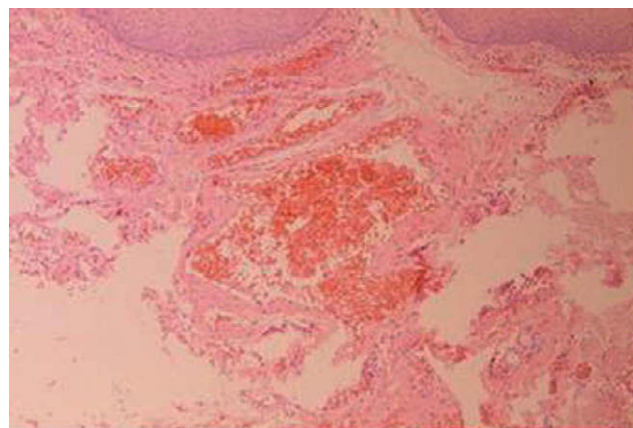


Fig. 4 — The tumor is covered with squamous epithelium. Increased, abnormally dilated and tortuous vessels with an irregular wall thickness within a loose fibrous stroma are clearly seen. The findings are compatible with cavernous hemangioma. (Hematoxylin & eosin, 100 \times .)

tortuous vessels with an irregular wall thickness within a loose fibrous stroma. The pathology report was compatible with cavernous hemangioma (Fig. 4).

3. Discussion

Hemangiomas of the larynx are generally classified into adult and infantile types. Infantile hemangiomas are usually subglottic and may cause fluctuating respiratory distress and biphasic stridor, especially during periods of venous engorgement. They sometimes accompany cutaneous hemangiomas (5). Adult hemangiomas are rare and can be seen at various sites, but are usually glottic or supraglottic. They are more often of cavernous form and cause vague symptoms (6,7), such as hoarseness, cough, hemoptysis, dyspnea, and a lump sensation, as in our patient.

According to the International Society for the Study of Vascular Anomalies, vascular anomalies encompass hemangiomas and vascular malformations. The former are characterized by a growth phase, hypercellularity, and endothelial proliferation, whereas the latter are congenital lesions that are differentiated from hemangiomas on the basis of their normal endothelial cell turnover and lack of excessive proliferation. Malformations have abnormal structures derived from vessels and generally do not regress (8). Histologically, hemangiomas are composed of large, irregular, blood-filled channels lined with a single layer of endothelial cells between loose fibrous tissue septa of varying thickness. The exact etiology of the origin of hemangiomas is not well understood. Most hemangiomas are congenital and slowly progressive, with 85% of cases noted by 1 year of age. Among hemangiomas, 65% occur in the head and neck region (9).

Laryngeal hemangiomas are diagnosed primarily by physical examination and history. Doppler ultrasound, computed tomography, technetium imaging, and plain radiographs can play a role in determining the dimensions and extent of hemangiomas (10). If the lesion is extensive, angiography and magnetic resonance imaging may be useful in confirming the vascular nature of an adult laryngeal hemangioma as well as in determining its extent. Our patient did not undergo any imaging study because the hemangioma was isolated and appeared to be restricted to the left aryepiglottic fold under flexible laryngoscopy.

There is no well-established treatment protocol for adult laryngeal hemangiomas because only anecdotal case reports or very limited series are available in the medical literature. Injection of corticosteroids or ethanol, cryosurgery, and radiation therapy have been used. For small lesions, excision with microlaryngoscopic techniques can be used. For large lesions, tracheostomy and an open surgical approach may be required. Laser surgery is thought to be relatively effective and less invasive than surgical removal. CO₂ laser excision of the lesion is generally accepted. In limited or pedunculated supraglottic cavernous hemangiomas, CO₂ laser vaporization of the lesion with super-pulse modality at 4–8 W is advised (7). But CO₂ laser cauterization is ineffective in extended lesions and in large vessels with significant bleeding. Extended laryngeal hemangiomas involving the hypopharynx should be approached with staged laser surgical procedures to avoid postoperative laryngeal inflammation and edema (7). Several reports indicate that use of the CO₂ laser when treating subglottic hemangiomas has been associated with increased risk of damage to adjacent mucosa and an increased risk of development of subglottic stenosis postoperatively (11).

Available data on the use of KTP lasers in the management of laryngeal hemangiomas are limited. We applied a KTP laser to ablate this vascular tumor

because it has several advantages. The KTP laser beam is preferentially absorbed by hemoglobin, which makes this laser system applicable to the treatment of hemangiomas. It can be directed by fiberoptic fibers to the tissues by both handheld instruments and microscope attachments; thus, it is very adaptable and precise. KTP laser-assisted excision, being a minimally invasive approach, results in minimal blood loss. Additionally, the fibers can be used in both contact and non-contact modes without interruption of the laser. In this case, we used the KTP laser to successfully remove the laryngeal hemangioma without complications and there was no recurrence at the 6-month postoperative follow-up. The KTP laser has had versatile clinical applications in treating extralaryngeal vascular lesions, such as esophageal hemangioma (12), urethral hemangioma (13), pyriform fossa hemangioma (14), superficial cutaneous vascular lesions (15), and intralesional photocoagulation for voluminous vascular lesions of the skin (16).

In conclusion, an adult supraglottic laryngeal hemangioma is rare and can be treated successfully with a KTP laser with limited morbidity. The KTP laser is a good tool for the management of laryngeal hemangioma with a low incidence of complications.

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