

Acquired laryngeal hemangioma: A rare presentation in an adult

SAGE Open Medical Case Reports
Volume 11: 1–4
© The Author(s) 2023
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/2050313X221146872
journals.sagepub.com/home/sco



Rahaf Rajab¹, Abdullah Sindi¹, Ahmad T Ghanem², Afnan F Bukhari¹
and Faisal Zawawi¹

Abstract

Laryngeal hemangiomas are rare vascular tumors that mostly present in children. The objective of this publication is to shed the light over this rare diagnosis. We report a case of adult onset of laryngeal hemangioma arising from the junction of the vocal fold and vocal process. The patient presented with a history of hoarseness of voice. An in-office laryngoscopy was performed that revealed a pink lobulated mass arising from the left hemilarynx. Intraoperatively, suspension microlaryngoscopy was performed; the lesion was identified and successfully resected using cold dissection technique. Histopathological analysis was consistent with laryngeal hemangioma. The patient is now a year post resection and remains asymptomatic without signs of recurrence. To conclude, adult onset of laryngeal hemangioma is very rare. When present, resection with either or both cold steel (microscissors) and laser have shown good outcome. Patients should be monitored afterwards for possible recurrence.

Keywords

Hemangioma, voice, adult, dysphonia, vocal cords

Date received: 30 April 2022; accepted: 6 December 2022

Introduction

Hemangiomas are benign vascular tumors with unknown etiology. They represent the most commonly diagnosed congenital benign tumors, and ~60% arise in the head and neck region.^{1–3} Laryngeal hemangiomas are slowly developing vascular tumors,^{1,2} which are either children (infantile hemangioma) or adult hemangiomas.^{1,2} Infantile hemangiomas are more common in first 2 months of life.⁴ Adult hemangiomas are more likely to be seen in men and are not considered progressive tumors but also do not regress spontaneously.⁵ Small hemangiomas might simply be observed over time, while large hemangiomas may need treatment.^{6–7}

In adults, laryngeal hemangiomas are rarely encountered, with 27 patients in published reports in the English literature.³ We report a case of an adult with glottic hemangioma that was successfully treated by surgery.

Case report

This case report received exemption from the institutional review board. An informed written consent was taken from the patient to proceed with reporting and publication of this case.

A 42-year-old male with no history of chronic disease, who was a nonsmoker and nondrinker, presented to the otolaryngology—head and neck surgery clinic complaining of voice hoarseness for 1 month and foreign body sensation that was not improving. His symptoms started after an episode of acute laryngitis that lasted for 5 days. One week later, he started to develop the previously mentioned symptoms. He did not complain of any choking attacks, dysphagia, hemoptysis, pain, neck swelling or cutaneous lesions. On physical examination, he was noted to have breathy and hoarse voice without stridor or work of breathing. A complete head and neck examination was performed, which was normal.

Stroboscopy was attempted but was not feasible due to an extremely sensitive gag reflex that was easily triggered by

¹Department of Otolaryngology—Head and Neck Surgery, Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia

²Department of Pathology, Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia

Corresponding Author:

Faisal Zawawi, Department of Otolaryngology—Head and Neck Surgery, Faculty of Medicine, King Abdulaziz University, Building 10, Jeddah 21589, Saudi Arabia.

Emails: faisalzawawi@gmail.com; fzawawi@kau.edu.sa



both nasopharyngoscopy and rigid laryngoscopy. During the limited examination, a lesion was noted in the larynx that looked round, likely pedunculated and likely came off of the left vocal fold process, with bilaterally intact vocal fold mobility.

The patient was taken to the operating room for assessment and surgical resection under general anesthesia. The patient was kept spontaneously ventilated without endotracheal intubation for the majority of the surgery. This was achieved using a combination of inhalant anesthesia and intravenous medications including propofol while avoiding the using of muscle relaxant agents. We utilized the Benjamin laryngoscope to suspend the larynx. After suspension laryngoscopy was performed, larynx examination revealed a pink, round, lobulated mass with a stalk originating from the junction of the left vocal fold and process (Figure 1).

Full excision of the mass was performed using cold dissection instruments (Figure 2). Using left-facing grasping forceps, the mass was manipulated. Microscissors and spatulas were used to complete the dissection of the stalk. Adrenaline pledgets were utilized for hemostasis. At the end of the surgical intervention, the suspension was removed, and the patient was handed back to anesthesia and subsequently transferred to the recovery room.

The patient tolerated the procedure well and was discharged on analgesics, proton pump inhibitors, as well as voice rest. The patient returned to the clinic 1 week later with near-to-normal voice.

Histopathological gross examination of the specimen revealed a round, lobulated mass with a narrow stalk. Microscopic examination revealed surface stratified squamous epithelium with variable sized vascular spaces in the submucosa (inset) lined by benign flattened endothelial lining, which justified the diagnosis of laryngeal capillary hemangioma (Figure 3).

The patient is now 18 months post surgery and is asymptomatic. On a routine follow-up, an in-office laryngoscopy was performed that revealed no signs of recurrence. Although full stroboscopy was not possible to be performed due to the patients severely sensitive gag reflex, the patient reports voice returning back to his baseline voice prior to this condition happening.

Discussion

Adult onset laryngeal hemangioma usually occurs in the supraglottic region and presents with dysphonia, dysphagia, foreign body sensation and rarely hemoptysis.¹ In our case, hoarseness and foreign body sensation were the only two presenting symptoms.

The etiological and predisposing factors are not well understood and have been unconvincingly enumerated; the factors are thought to be smoking, vocal abuse, intubation and laryngeal trauma.⁸ The case presented here did not

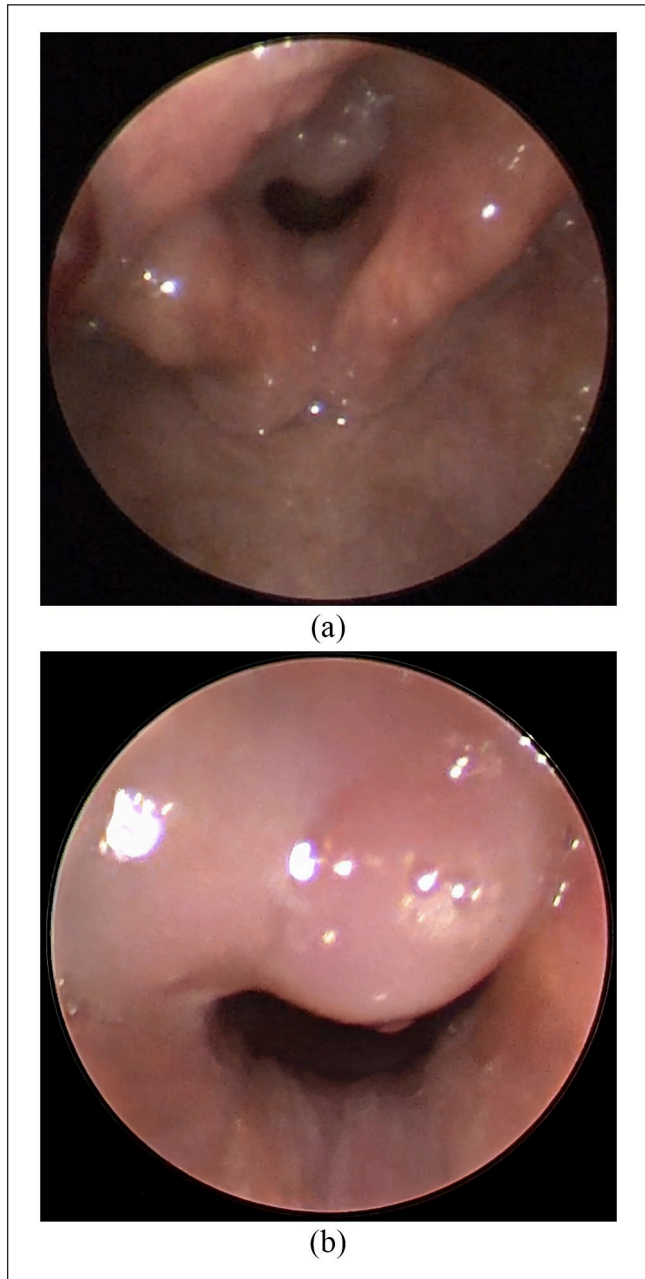


Figure 1. (a) A round, lobulated mass with a stalk originating from the left junction of the vocal fold and process. (b) Shows a close up image of the lobulated mass.

have any of these factors, but rather an episode of acute laryngitis. This is an interesting finding as none of the previously published case reports describe an episode of acute laryngitis immediately prior to the onset of symptoms.

In previous studies, computed tomography (CT) and magnetic resonance imaging (MRI) have been found to be helpful in detecting the size, form, anatomical association and extent of hemangiomas. The results suggest that the use of CT, MRI and laryngoscopy will help in the delineation and diagnosis of laryngeal hemangiomas that have deep

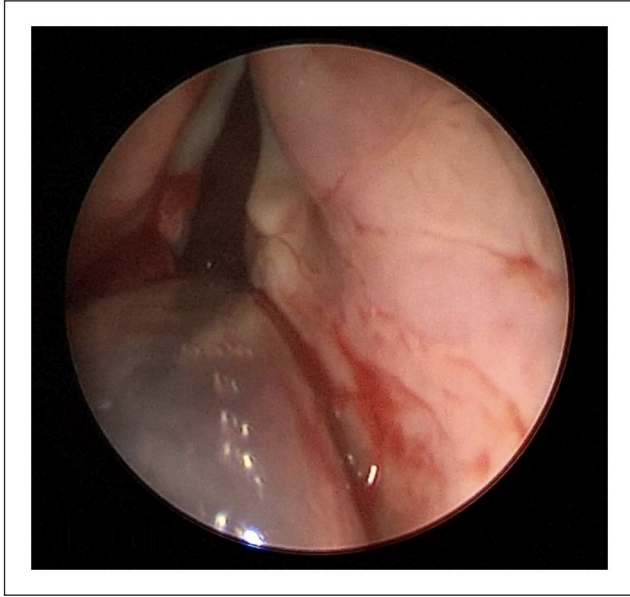


Figure 2. A view after resection of the bulk of the lesion, revealed the origin of the stalk at junction of the left vocal fold and process. The stalk was resected afterwards.

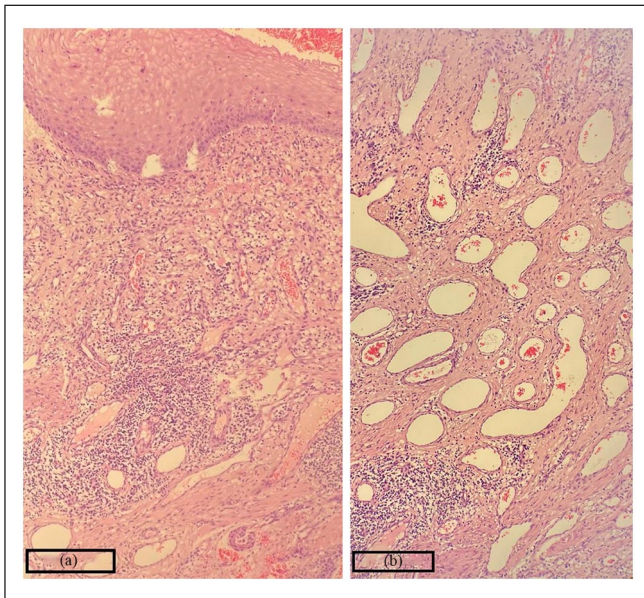


Figure 3. (a) Histopathology revealed surface stratified squamous epithelium. (b) This figure highlights the variable sized vascular spaces seen in the submucosa (inset) lined by benign flattened endothelial lining.

extensions.⁹ In the present case, laryngoscopy was used to identify a mass that looked round, likely pedunculated and likely coming off of the left false vocal fold.

On a histological level, hemangiomas are formed of large, irregular, blood-filled channels lined with a single layer of endothelial cells between loose fibrous tissue septa of varying

thickness.¹⁰ Pathological examination is definitely required for definitive diagnosis.⁹ Adult laryngeal hemangiomas can be classified as cavernous, which is most common, capillary or mixed.¹¹

Since there are only limited data available about adult laryngeal hemangioma, there are no well-established treatment protocols. Treatment options include endoscopic surgery with mixed approaches of microscissors and laser.^{2,3}

In a study by Kazikdas et al.,¹² capillary hemangioma was found on the anterior one-third of his right vocal fold and was successfully excised with microscissors without complications postoperatively. In another study by Laohakittikul and Srirompotong,¹³ lobular capillary hemangioma was found at anterior half of left true vocal fold; excision with laryngeal carbon dioxide laser was done successfully. Similarly, we excised the lesion by cold steel surgery. The patient reported improvement in his voice quality, and 18 months later, he was still asymptomatic and without signs of recurrence.

Conclusion

In conclusion, adult laryngeal hemangiomas are rare, and their etiology is not well understood. In this case, endoscopic approach whether with microscissors was performed safely and without recurrence.

Acknowledgements

The authors do not have any acknowledgment to report for this manuscript.

Author contributions

R.R. contributed to the data collection, manuscript writing, revision editing, final manuscript review and production, and approved the final version. A.S. contributed to the data collection, manuscript writing, final manuscript review and production, and approved the final version. A.T.G. contributed to the data collection, production of figures, manuscript review and approved the final version. A.F.B. contributed to the data collection, manuscript writing, final manuscript review and production, and approved the final version. F.Z. contributed to the data collection, manuscript writing, revision editing, and final manuscript review and production.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

Ethical approval

Our institution does not require ethical approval for reporting individual cases or case series.

Informed consent

Written informed consent was obtained from the patient(s) for their anonymized information to be published in this article

ORCID iD

Faisal Zawawi  <https://orcid.org/0000-0003-2512-407X>

References

1. Martins RHG, Lima Neto AC, Semenzate G, et al. Laryngeal hemangioma. *Rev Bras Otorrinolaringol* 2006; 72: 574.
2. Zheng JW, Zhou Q, Yang XJ, et al. Treatment guideline for hemangiomas and vascular malformations of the head and neck. *Head Neck* 2010; 32(8): 1088–1098.
3. Mesolella M, Allosso S, Mansueto G, et al. Strategies and controversies in the treatment with carbon dioxide laser of laryngeal hemangioma: a case series and review of the literature. *Ear Nose Throat J* 2022; 101(5): 326–331.
4. Alshaya H, Alhejji A, Aldkhyyal A, et al. Management of adult laryngeal hemangioma with CO2 laser. *Saudi Med J* 2021; 42(11): 1252–1253.
5. Yilmaz MD, Aktepe F and Altuntaş A. Cavernous hemangioma of the left vocal cord. *Eur Arch Otorhinolaryngol* 2004; 261(6): 310–311.
6. Kawakami M, Hayashi I, Yoshimura K, et al. Adult giant hemangioma of the larynx: a case report. *Auris Nasus Larynx* 2006; 33(4): 479–482.
7. Fechner RE, Cooper PH and Mills SE. Pyogenic granuloma of the larynx and trachea: a causal and pathologic misnomer for granulation tissue. *Arch Otolaryngol* 1981; 107(1): 30–32.
8. Kimmelman CP, Sugar JO and Lowry LD. Resident's page. Pathologic quiz case 2. Hemangioma of the vocal cord. *Arch Otolaryngol* 1979; 105(8): 500–502.
9. Wang X, Zhao X and Zhu W. Resection of a laryngeal hemangioma in an adult using an ultrasonic scalpel: a case report. *Oncol Lett* 2015; 9(6): 2477–2480.
10. Wang WH and Tsai KY. Transoral robotic resection of an adult laryngeal haemangioma and review of the literature. *J Laryngol Otol* 2015; 129(6): 614–618.
11. Yang G-Z, Li J and Jin H. Giant mesenteric hemangioma of cavernous and venous mixed type: a rare case report. *BMC Surg* 2013; 13(1): 1–4.
12. Kazikdas KC, Yalcinozan ET, Tinazli R, et al. Vocal fold hemangioma. *Ear Nose Throat J* 2019; 98(5): 257–258.
13. Laohakittikul C and Srirompotong S. Adult vocal fold hemangioma: a case-series study and review of literature. *J Voice*. Epub ahead of print 6 March 2021. DOI: 10.1016/j.jvoice.2021.01.022.