

# Adult Laryngeal Hemangioma: Airway Obstruction

## Erişkin Laringeal Hemanjiom: Hava Yolu Obstrüksiyonu

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### Özet

Yetişkin laringeal hemanjiyomlar (YLH), en sık glotis ve supraglottis bölgesinde görülen mavimsi kırmızı renkli lezyonlardır. Başlıca semptomlar ses kısıklığı, nadiren hemoptizi ve ileri vakalarda disfaji ve nefes almada güçlütür. Uzun süredir ses kısıklığı olan ve son bir yıldır nefes darlığı şikayeti olan 55 yaşında kadın hasta acil servisten stridor nedeniyle kliniğimize konsülte edildi. Hastanın endoskopik muayenesinde her iki vokal kordun hareketli olduğu görüldü, subglottik bölgeyi dolduran, hava pasajını daraltan ve sadece pasajın posterior kısmından hava akımına izin veren mavi-mor renkli kitle lezyonu saptandı. Hava yolu güvenliği için acil trakeotomi açıldı. Subglottik bölgede yer alan kitleye laringofissür tekniği ile yaklaşıldı ve eksize edildi. YLH hemorajik veya enfeksiyöz komplikasyonlara bağlı semptomatik olduğunda veya progresif hava yolu obstrüksiyonuna sebep olduğunda cerrahi tedavi gereklidir. Bu yazıda, büyük bir subglottik YLH'nin klinik ve radyolojik özellikleri sunuldu.

**Anahtar kelimler:** Havayolu obstrüksiyonu, Hemanjiom, Larenks, Tedavi

### Abstract

Adult laryngeal hemangiomas (ALH) are clearly defined, with a bluish red color, appearing most often in the glottic and supraglottic region. The principal symptoms are hoarseness, occasional hemoptysis, and in advanced cases, dysphagia and difficulty in breathing. The patient was a 55 year old female suffering from hoarseness for a long time, experiencing shortness of breath for the last 1 year and she was referred to our clinic from the emergency department due to stridor. In the endoscopic examination of the patient, both vocal cords were found to be mobile, and a blue-purple mass lesion was detected, which was filling the subglottic region and allowing air passage only in the posterior part. Emergent tracheotomy was performed for the airway safety. The mass located in the subglottic region was approached with the Laryngofissure technique and was excised. Surgical management is necessary when ALHs became symptomatic for hemorrhagic or infectious complications, or for progressive airway obstruction. In this paper, we present the clinical and radiological features of a large subglottic ALH.

**Keywords:** Airway obstruction, Hemangioma, Larynx, Treatment

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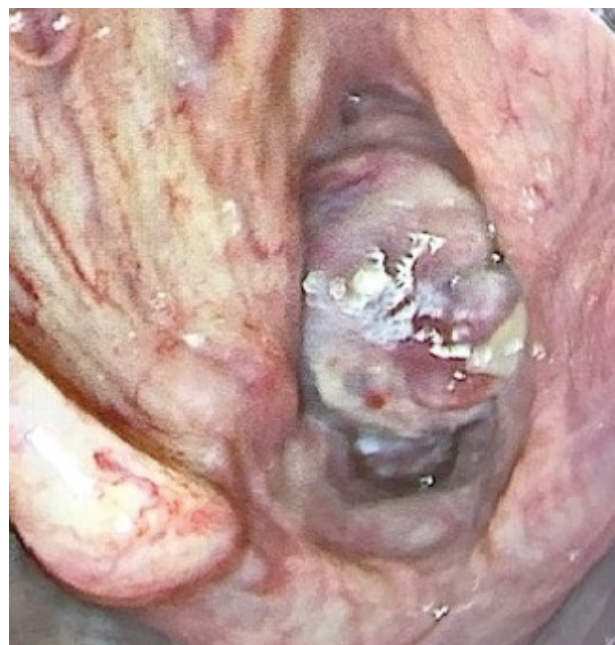
## INTRODUCTION

Laryngeal hemangioma is a relatively rare laryngeal non-malignant tumor (1). Laryngeal hemangiomas have been divided into 2 types: infantile or congenital and adult (2). Adult laryngeal hemangiomas (ALH) are clearly defined, with a bluish red color, appearing most often in the region of the glottis and supraglottis. They occur more frequently in males. The principal symptom is hoarseness, occasional hemoptysis, and in advanced cases, dysphagia and difficulty in breathing (3). ALH are located in the supraglottic region in 80% of cases (4). In contrast to the infantile type, adult hemangiomas lack the tendency of regressing spontaneously (1). Despite the various treatment modalities in its management, surgical options are often employed (1).

We present the clinical and radiological features of a large subglottic ALH. To our knowledge, this is the first patient described as having a large, ossified hemangioma occurring in the larynx.

## CASE PRESENTATION

The patient was a 55 year old female suffering from hoarseness for a long time, experiencing shortness of breath for the last 1 year, and she had been given an asthma treatment. Her complaints increased in the last month, and she was referred to our clinic from the emergency department due to stridor. In the endoscopic examination of the patient, both vocal cords were found to be mobile, and a blue-purple mass lesion was detected, which was filling the subglottic region and allowing air passage only in the posterior part. The aryepiglottic folds and false vocal cords were normal (**Figure 1**). Contrast computerized tomography (CT) scans of the patient were performed, which showed the lesion that was completely narrowing the air column and located to the level of the right subglottic (**Figure 2**). During the tracheotomy procedure, the vascular masses in the anterior cervical region were excised and the pathology result was reported as hemangioma. The mass located in the subglottic region was approached with the laryngofissure technique. It was observed that the mass originated from the inferior part of the right vocal cord and was excised with the help of bipolar cautery. The patient was decannulated on the 3<sup>rd</sup> postoperative day and was discharged on the 5<sup>th</sup> day. A fiberoptic examination showed good glottic space patency; and the pathologic features were consistent with an ossified hemangioma. (The patient provided informed consent for the present study)



**Figure 2.** Fiberoptic laryngoscopy picture showing a large hemangioma in subglottic region.



**Figure 2.** CT scan (axial view) showing mass involving subglottis

## DISCUSSION

Hemangioma, the commonest vascular tumor, can appear in head and neck region. The oral cavity is the most involved site in this region and pharyngeal and laryngeal involvement are rarely encountered (5). There is a male preponderance in ALH. Vocal abuse, cigarette smoking and laryngeal trauma (i.e., intubation) are among the suspected etiological factors (6). The patient in this case was not a cigarette smoker and there was no history of laryngeal trauma and vocal abuse.

A thorough history and a complete examination are imperative for a diagnosis; however, it must be confirmed by radiological imaging and biopsy. CT is a useful method of defining the form, size, and anatomic relationship of the hemangiomas. Biopsies are not indicated because of the risk of severe bleeding (7). Our patient underwent a contrast-enhanced CT scan, which showed the lesion that was completely narrowing the air column and located to the level of the right subglottis.

There is no consensus about the treatment of ALHs. The treatment employed depends on factors such as: the patient's age; the tumor type, the size and location; and the patient's complaints. For small or asymptomatic laryngeal hemangiomas, close observation has generally been found to be sufficient (8).

Surgical excision, carbon dioxide (CO<sub>2</sub>) or potassium titanyl phosphate (KTP) laser therapy, cryosurgery and sclerotherapy are the various techniques employed in the management, however, ALH are mostly treated surgically (1). Hemorrhagic or infectious complications and progressive airway obstruction leading to symptomatic ALHs are the indications for surgical management. Small lesions are managed with excision using microlaryngoscopic techniques or laser ablation (6). Tracheostomy and an open surgical approach may be necessary for large lesions (1). In this case, we prefer tracheotomy and laryngofissure technique because of the obstructed airway and large vascular mass.

Sometimes a preoperative selective embolization for bleeding hemangiomas is required in order to perform a successful surgical excision (8). However, when the open approach is applied, as in our case, even very large hemangiomas can be operated on without any complications, and without the need for an embolization procedure. Sometimes it may be necessary to prefer the classical techniques to technology.

**Conflict of Interest Statement:** The authors of the article declare that there is no conflict of interest.

**Contribution Rate Statement Summary:** The authors declare that, they have contributed equally to the manuscript.

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