Case Report

A rare cause of respiratory distress and hemopytsis: Laryngeal leech infestation

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ABSTRACT

Aquatic leech infestation of larynx involvement is very rare and may be life threatening due to airway obstruction. This article presents a case of hemoptysis, dyspnea and melena caused by the laryngeal localization of a leech. Endoscopic evaluation of our patient has shown a leech stuck on the laryngeal surface of epiglottis hanging down to the rima glottis. We present a patient with laryngeal leech who was a shepherd in the southeast region of Turkey.

KEY WORDS: Leeches, Larynx, Foreign bodies, Airway obstruction, Dyspnea, Hemoptysis.

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INTRODUCTION

Hirudo medicinalis is an aquatic leech classified in *phylum Annelida* of helminth class which is a blood-sucking endoparasite that can be seen in cylindrical or leaf like forms.[1] Aquatic leeches are very common in wells, rivers and springs in the southeast region of Turkey. Due to the utilization of water from these traditional sources, leech infestation of upper aero-digestive tract is not uncommon in rural parts of the south-eastern region of Turkey. When contaminated water is drunk, the parasite sticks mostly to the mucosal surface of nasopharynx, oropharynx, tonsils or esophagus. However, larynx involvement is very rare and may be life threatening due to airway obstruction.[2] Here, we report an unusual case of laryngeal leech infestation presented with dyspnea, hemoptysis and melena.

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CASE REPORT

A 42-year-old male patient was referred to emergency room. He complained of relapsing hemoptysis, dyspnea and hoarseness for twenty days. He was a shepherd in a rural area and drank water from a well one month ago. His preliminary clinical, laboratory and radiologic examination of the lung revealed no pathological findings. After an attentive query, the patient also mentioned that he had had melena for the last five days. The patient was then referred to the otorhinolaryngology and gastroenterology department. On endoscopic evaluation of upper airway, we found a moving dark brown foreign body with smooth moist surface which stuck on the laryngeal surface of epiglottis hanging down to the rima glottis (Fig.1). The foreign body was compatible with leech, so we immediately took the patient to the operating room. Direct laryngoscopy was performed under general anaesthesia. For induction we applied sevoflurane-oxygene mixture via face mask without tendotracheal intubation on the Trendelenburg position. By the effect of sevoflurane the leech departed from the interarytenoid region. Then, it was taken out with the help of forceps. The leech was four cm in length and dark brown in colour

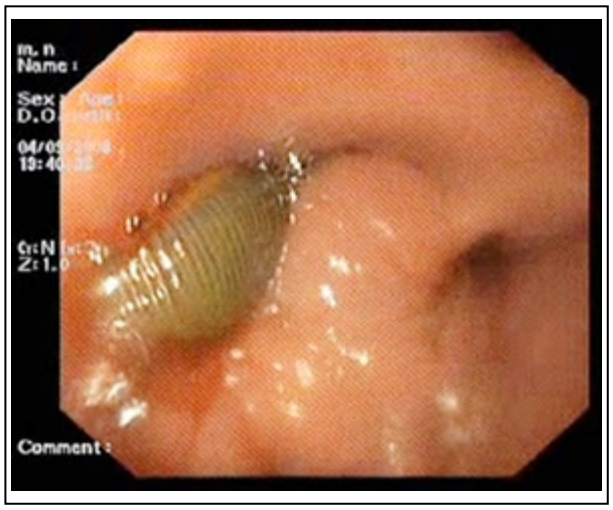

Fig.1: Endoscopic view of the leech on the laryngeal surface of epiglottis.

Fig.2: Photograph of the leech after removal. It was 4 cm long and dark brown in colour.

(Fig.2). Post-operatively the patient remained asymptomatic. Then he was also evaluated by the gastroenterology department and no other cause of melena has been found. The patient was discharged from the hospital on the next day.

DISCUSSION

Leeches belong to*phylum Annelida, class Hirudinea* and have a world-wide distribution.[3] They are hermaphroditic annelids sucking blood with the help of three radially formed jaws. Their saliva contains anticoagulant factors such as hirud in which induce persistent bleeding and may also be present with hemoptysis and melena.[4] In our case, dyspnea and hemoptysis was in the foreground but when the patient was thoroughly questioned melena was also revealed. Therewith, the patient was also evaluated by the gastroenterology department, but no other cause of melena has been found confirming that it is due to the leech infestation.

Some leeches live on land animals but more do on aquatic ones. *Hirudo medicinalis* belongs to the aquatic subgroup and frequently used in therapeutic medicine.[5] *Hirudo medicinalis* is acquired occasionally while bathing in contaminated rivers or, as in our case, drinking water from contaminated wells or springs. Due to this type of transmission, nearly all cases have been reported from underdeveloped countries where access to clean water is tough.[6-8] Cases reported from Europe are very exceptional.[9] Turkey lies between Europe and Middle East, therefore prosperity, climate and geographic characteristics are quite variable. When aforementioned factors are considered, there is a huge difference between the western and eastern regions of Turkey, in favour of West. Thus, almost all reports from Turkey as in our report have been presented from south-eastern region of Turkey.

Leeches can cause severe problems, especially in the aero-digestive tract where they can cause life-threatening acute bleeding and/or obstruction and must be removed very quickly.[3,10] In case of tight attachment into the mucosa, resisting mechanical removal, various methods can be used. These include local use of hypertonic sodium chloride solution, 30% cocaine-1:10000 adrenaline, dimethyl phthalate, vinegar, turpentine and alcohol.[2,3] These locally used materials eventually induce paralysis in the leech and ease its removal from the mucosa. However, except for adrenaline, all these agents may cause laryngeal edema. Thus, they are not completely safe. Moreover, local anaesthesia for laryngeal procedure is uncomfortable for patients. Removal of the leech with general anaesthesia is also quite hazardous due to mechanical trauma caused by the intubation tube, which can lead to ruptures of the leech, aspiration into the lung, persistence of bleeding, and secondary infection. When compared with aforementioned procedures, induction of general anaesthesia via face mask without using endotracheal tube is a quite safe method for removing leech from larynx. Furthermore, inhalational general anaesthetics such as sevoflurane have a paralyzing effect on the leech. So, we preferred to use general anaesthesia via face mask without using endotracheal tube with sevoflurane in our case. Consequently, we safely removed the leech as consistent with the literature.[2]

In conclusion, aquatic leech infestation of upper aero-digestive tract in endemic areas is not uncommon.[1] Nevertheless; larynx involvement is

very rare and may give rise to airway obstruction, hoarseness, hemoptysis and melena. This kind of foreign body in the respiratory tract is an emergency and necessitates immediate intervention due to high risk of mortality.[2] A patient presented with hemoptysis, dyspnea, change in the voice and a history of contact with contaminated water especially in the endemic areas like the south-eastern region of Turkey, should not be overlooked for leech infestation in the upper respiratory tract.[7] In addition, general anaesthesia with sevoflurane without laryngeal intubation is the safest way of removing laryngeal leech.

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Authors Contribution:

Burak Ulkumen and Serif Yilmaz did flexible endoscopy. The modality of removal was determined and operation was carried out by Burak Ulkumen. Burak Ulkumen and Serif Yilmaz approved the final manuscript.