

## Case Report

# A rare case report of tracheal leech infestation in a 40-year-old woman

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**Abstract:** Leeches are the very rare types of airway foreign body. Here we report a rare case of a 40-year-old woman with tracheal leech infestation. A 40-year-old woman presented 2-month history of dyspnea, occasional haemoptysis. There were foreign body sensation in throat, cough and hoarseness. Computed Tomography (CT) revealed some soft tissue shadow in the upper trachea. Eventually a 5 cm long living leech was smoothly removed from trachea by rigid bronchoscopy under sevoflurane general anesthesia. The airway leech infestation should be kept in mind especially in patients presenting with unexplained haemoptysis, dyspnea, hoarseness and a foreign body sensation in the throat and a history of drinking infested water from streams, pools and spring. General anesthesia might be necessary for the removal of the leech.

**Keywords:** Foreign bodies, leeches, trachea

### Introduction

Foreign body aspiration is a life-threatening emergency and organic materials, especially nuts and food matters are the most common foreign bodies [1, 2]. Leeches are the very rare cause of airway foreign body around the world. Leeches are segmented worms that are generally found in streams, pools and springs. They can enter the human body when people swim in contaminative streams or drink infested water. Here we report an unusual case of a 40-year-old woman with tracheal leech infestation.

### Case report

A 40-year-old woman, from southwest China, presented to our hospital with complaints of dyspnea, occasional haemoptysis, a foreign body sensation in her throat, cough and hoarseness for 2 months. She was firstly diagnosed asthma and prescribed some corticosteroids bronchodilators before coming to our hospital. However, those medicines did not show any effect. Since suspicion of an ingested leech with a history of drinking mountain spring water, doctors in another hospital performed bron-

choscopy under lidocaine topical anesthesia, and found a brown living foreign body in the upper trachea, but failed to extract it. Finally, she was admitted to our hospital.

On examination, she had inspiratory stridor. Routine haematological, biochemical, coagulation test and urine analysis were normal. Computed Tomography (CT) revealed some soft tissue shadow in the upper trachea (**Figure 1**).

The patient was immediately performed emergency rigid bronchoscopy under sevoflurane general anesthesia with spontaneous respiration by assistance of high-frequency jet ventilator which was connected to the side-arm of the rigid bronchoscope in the operating room. After 1% lidocaine was sprayed into the larynx, glottis and upper trachea, rigid bronchoscopy was inserted into the patient mouth. It showed that a brown worm-like moving foreign body clinging to the upper trachea approximately 2 cm below the glottis. There was granulation tissue surrounding the foreign body, without bleeding and blood clots in the trachea. Eventually a 5 cm long living leech was smoothly removed from trachea by forceps (**Figure 2**). After regular over-

## Tracheal leech infestation



**Figure 1.** Computed Tomography (CT) showing soft tissue shadow (arrow) in the upper trachea.



**Figure 2.** The leech removed from the patient.

night surveillance, the patient was discharged from the hospital without any discomfort and complaint.

### Discussion

Leeches are parasites that live on occasional blood sucking by attaching to fish, amphibians, and mammals. They use anterior suckers consisting of the jaw and teeth to attach to their host's mucous membrane to feed. Leeches can secrete an anticoagulant enzyme named hirudin, which inhibits coagulation of the blood [3, 4]. Therefore, the signs of bleeding can be seen, such as epistaxis, haematemesis, hemoptysis, hemafecia or even anemia, depending on the exact site of the infestation [4]. Leeches can ingest blood up to approximately 9 times their own body weight [3]. Signs of airway obstruction such as nasal obstruction, dysphagia, dyspnea or suffocation can

therefore progress over time [5]. Besides, a foreign body sensation, hoarseness and dysphonia are also important accompanying symptoms [3, 5].

The patient had an unsuccessful attempt to remove the leech under local anesthesia before admission to our hospital. Although tracheo-bronchial foreign body in adults has been successfully removed under local anesthesia in some reports [5, 6], we believe that rigid bronchoscopy under general anesthesia is a more safety method of leech removal [4]. In this patient, neuromuscular blockers were not administrated to maintain spontaneous respiration. To avoid low hypoxemia, high-frequency jet ventilator was added to spontaneous respiration to sustain a continuous high fractional concentration of inspired oxygen. Eventually, the leech was successfully removed by gentle traction with forceps.

Since leeches affix firmly to the mucous membrane by its anterior sucker, applying force strongly may cause serious damage on the tissue. Irrigation hypertonic sodium chloride solution [7], glycerine phenice [8] and lidocaine [3] have been reported to detach a leech from the mucosa. However, these methods should be performed with great caution in the respiratory tract to avoid bronchospasm, mucosal chemical injure and even suffocation. In our report, probably anesthetized by sevoflurane, the leech was smoothly removed from upper trachea with forceps.

In conclusion, although rarely seen, airway leech infestation should be kept in mind especially in patients presenting with unexplained haemoptysis, dyspnea, hoarseness and a foreign body sensation in the throat and a history of drinking infested water from streams, pools and springs. Rigid bronchoscopy under general anesthesia might be necessary for the removal of the leech.

### Disclosure of conflict of interest

None.

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