

# A rare cause of hemoptysis: Leech infestation

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## ABSTRACT

**Introduction:** Hemoptysis is a medical emergency. Unusual causes may exist. We report a very rare case of hemoptysis, whose cause has proven an infestation of the respiratory mucosa by a Leech. **Case Report:** An 80-year old male presented with a three-day history of hemoptysis. The patient was admitted to our intensive care unit for respiratory distress and hemodynamic instability. Endoscopic examination was performed following nasal packing under local anesthesia and oxygen. A worm was noticed adhered to the bronchial mucosa. This worm was removed under local anesthesia and identified as a leech. **Conclusion:** The infestation by the leech remains relatively rare. The diagnosis should be considered in the presence of unexplained hemoptysis, in patients with a recent history of drinking stream water. Endoscopy is the cornerstone in the diagnosis and the treatment of this infestation.

**Keywords:** Bronchial mucosa, Bronchiectasis, Hemoptysis, Leech, Tuberculosis

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## INTRODUCTION

Hemoptysis is a medical emergency. Patients die from asphyxiation or exsanguination. The most common causes are tuberculosis, bronchiectasis, and carcinoma [1]. But “unusual” causes may exist. When hemoptysis is massive or associated with respiratory failure, the patient should be supported in intensive care unit. We report a very rare case of hemoptysis, poorly tolerated hemodynamically, whose cause has proven an infestation of the respiratory mucosa by a blood-sucking worm: “A leech”!

## CASE REPORT

An 80-year old male presented with a three-days history of hemoptysis. He had a history of prostate adenoma and tobacco. Clinical examination revealed a body temperature of 37.4°C, a heart rate of 120/min, a blood pressure of 80/ 60 mmHg, a respiratory rate of 24/min, oxygen saturation of 90%. The pulmonary auscultation objectified few wheezing. Arterial blood gas analysis revealed hypoxemia and respiratory alkalosis. Chest radiography showed a bilateral bronchial syndrome. The hemoglobin level was 8 g/dl. The patient was admitted to our intensive care unit for respiratory distress and hemodynamic instability. He was put on

oxygen and adrenaline aerosol without improvement. Endoscopic examination was performed following nasal packing under local anesthesia and oxygen. A worm was noticed adhered to the bronchial mucosa. This worm was removed under local anesthesia and identified as a leech. It was black in color, measured about 4 cm and was mobile (Figure 1). After removal of the leech, bleeding stopped immediately with spectacular stabilization of respiratory and hemodynamic status.

## DISCUSSION

Leeches are blood-sucking hermaphroditic parasites belonging to the phylum Annelida of the class Hirudinea [2]. Leeches are generally found in puddles of water and streams. The contamination occurs by drinking infected water, and then, leeches localize on the mucus of pharynx, tonsils, esophagus, nose or nasopharynx, trachea, lower genitourinary tract (urethra and vagina), rarely in larynx and even eyes [3]. They feed on the blood of its hosts by biting through the skin and sucking out a quantity of blood equivalent to 890% of their body weight. They secrete anticoagulants such as hirudin, which inhibits thrombin and factor IXa, and hementerin, a plasminogen activator [4]. Symptoms depend on the localization place of the leech. They may causes epistaxis and nasal obstruction if they attache the nasal cavity and nasopharynx. If the leech is found in the oral cavity, the symptoms include hemoptysis and a feeling of a foreign body inside the mouth. The localization of the leech in the larynx causes symptoms like hemoptysis, hoarseness and respiratory distress [5]. Leeches may causes gastrointestinal bleeding and severe anemia, which may require a blood transfusion



Figure 1: The leech.

[6]. In some cases the hemoptysis may be responsible for respiratory distress and hemodynamic instability, as was the case in our patient. Endoscopy is the key examination to confirm the diagnosis and the treatment is based on the instrumental delivery of the leech. This extraction is not always easy, firstly because of its location, on the other hand due to its important link power. When the leech is found attached to the respiratory tract, it may be easily removed by using forceps. We must be very careful while removing the leech from its location; because of its slippery body surface which can easily be ruptured [7]. In our case, leech was removed safely in one piece by using forceps with the requirement of local anesthesia. Treatment involves thereafter, antiseptic and local analgesics as well as the treatment of anemia, present in almost half of cases [8].

## CONCLUSION

The infestation by the leech remains relatively rare. The diagnosis should be considered in the presence of unexplained hemoptysis, in patients with a recent history of drinking stream water. Endoscopy is the cornerstone in the diagnosis and the treatment of this infestation. To avoid contamination, people living in rural areas should be informed of the complications resulted by such ectoparasites and should use natural spring water after boiling and filtering them.

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## Author Contributions

Ben Ghezala Hassen – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Snouda Salah – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Ferchichi Samia – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Abbes Fehmi – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

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## Guarantor

The corresponding author is the guarantor of submission.

## Conflict of Interest

Authors declare no conflict of interest.

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