Case Report

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Hemoptysis Caused by Leech Infestation: A Unique Case

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Abstract

Hemoptysis in the patients suffered from pulmonary tuberculosis (TB) may be resulted by active TB or the complications of such disease which appears as bronchiectasis, fungal lesions deployed in tuberculosis cavities or Rasmussen aneurysm, Bronchiolitis or relapse and sometimes, it may be considered as caused by reasons irrelevant to TB. In this report, the patient is a 69-year-old man as complained of hemoptysis with a treated TB experience that was found as normal in the preliminary review of X-ray and CT. During bronchoscopy, a live leech (bloodsucker) was found in hypopharynx area that was swallowed after repeated attempts to remove it through the gastrointestinal tract and its suction signs were appeared as a mucosal mass in the hypopharynx area. The patient had no symptoms during his stay in the hospital.

Introduction

Hemoptysis means bloody sputum which may be varied in the forms of streaks of blood or withdrawal of a large amount of blood during the coughing process. Since the blood splattered from nasopharynx or gastrointestinal tract is sometimes similar to that withdrawn from lower respiratory tract; it is of great importance to trace at the first step the origin of this blood.

Causes of hemoptysis are highly variable; 5 to 15 percent of hemoptysis in the United States is related to TB. However, it involves more cases in the countries where TB is prevalent. Hemoptysis is found rather in active TB cases, but it is seen sometimes after chemotherapy completion. Rasmussen aneurysm is one of the reasons for massive pulmonary hemorrhage in TB which is caused by TB expansion to adventitia and media layers of the bronchial arteries [1].

Hemoptysis after completion of TB treatment could be due to TB recurrence and all other causes of hemoptysis in the patient suffered from TB consists of: bronchiectasis remains, aspergilloma as balls inside tuberculous cavities, bronchiolitis, ruptured bronchial artery wall, carcinoma and all other infectious and inflammatory cases. Other rare causes of hemoptysis of pulmonary endometriosis include systemic coagulopathy or making use of anticoagulants [2]. Like the patient who is going to be introduced, hemoptysis in a TB patient may be irrelevant to underlying diseases.

Though the leech has not been introduced in reference books as a cause for hemoptysis, very rarely epistaxis, hemoptysis and gastrointestinal bleeding have been stated in case reports [3-5].

Case report

The patient, a 69-year old man living in a village near Markazi province in August 2010 who has been transferred from the infection ward to lunge division for further investigation. Three days before going to emergency department, the patient suffered from hemoptysis associated with a little mucus and sometimes without it, followed by unilateral epistaxis. He was also complaining of feeling sore throat on his visit day. The patient's epistaxis discontinued, but his hemoptysis still continued; he has not any fever and chills and/or nausea and vomiting. He is saying of his experience of pulmonary TB in 7 years ago with a treatment for 6 months and he has been irregularly received bronchodilatory treatment including salbutamol due to his symptoms of obstructive pulmonary. He was not mentioning any experience of cigarette smoking. He did not report on any recent travelling experience, facial trauma and history of bleeding of other areas. The patient was a farmer and was repeatedly washing his face in subterranean waters in order to relive of ocular symptoms. The patient had no hypoxia on admission in pulse oximetry. The patient's vital signs were blood pressure: 130/80, breathe count: 20, pulse count: 88 and body temperature 37.2. He had no lymphadenopathy in the examination of head and neck, cardiac auscultation was normal and mild bilateral wheezes were heard on pulmonary auscultation. In the tests conducted, blood cells count, electrolytes and renal test function was found normal. No parenchymal lesion was found on the patient's chest x-ray. High Resolution CT (HRCT) of the patient was performed that was normal.

Then, he was transferred to lung division due to continuous hemoptysis for further examination. During further evaluation of the patient, he performed bronchoscopy through his nose that showed a leech at the posterior part of hypopharynx and above vocal cords with no evidence of active bleeding. In another attempt to get the leech out and take image, it was separated from the area and entered into esophagus and its previous location was seen as a mucosal mass in the hypophaynx area (image 1).

Figure 1. Leech in the hypophaynx area

During endoscopy of upper gastrointestinal tract which was performed within an hour later, surface scratches were observed at the area, but there was no visible evidence of leeches. The patient's bleeding was stopped and no further action was taken due to the absence of bleeding. Bronchoalveolar lavage was also negative in terms of TB and cytology and the patient was discharged from the hospital after a few days having no problem. He showed no signs of hemoptysis or gastrointestinal symptoms in the follow-ups after discharge.

Discussion

After gathering the patient's history and making physical examination, an important early action for evaluating hemoptysis is to take a chest radiograph. Abnormal results of the chest radiograph may address specific causes including neoplasm, TB, aspergillum or mitral stenosis. Laboratory tests including hematocrit measurement for the evaluation of bleeding severity and its treatment, renal function tests and urine analysis in cases of renal-pulmonary syndromes such as Goodpasture or Wegener's Granulomatosi (WG) were conducted and it is necessary to control coagulant tests in order to reject all other causes such as thrombocytopenia and coagulant disorders.

In the patients having risk factor for pulmonary embolism and gas exchange abnormalities, an evaluation of pulmonary thromboembolism should be performed. In case the chest radiograph and CT-scan is normal, bronchoscopy is a useful action which facilitates to specify hemoptysis area and to view endobronchial pathology; however, it appears very unlikely to find malignant endobronchial except elderlies and smokers. To do early bronchoscopy within the first 48 hours will make it more possible to view active bleeding and its location [6].

During the diagnostic procedure to examine hemoptysis, though there is a tendency for early use of HRCT of lung, selection of bronchoscopy or thoracic CT-scan as an initial diagnostic method after the chest radiography is still challengeable. However, in case of any doubt on bronchiectasis and arteriovenous malformation, HRCT is a priority in diagnostic actions. In the patient as introduced, since no pathological complication was found, a parenchymal form and hemoptysis factor was located at the upper respiratory tract; this issue has caused diagnostic limitations for HRCT and it is possible to determine hemoptysis etiology by performing endoscopy.

Leech infestation has not been mentioned in any reference book as a reason for hemoptysis; however, some cases of hemoptysis caused by leech infestation have been found as case reports including a seven-year old girl from Kordestan Province who had experienced drinking spring water [3].

The leech infestation is a rare cause for hematemesis, hemoptysis, aspiratory distress, severe epistaxis, hoarseness as well as rectal and vaginal bleeding, none of which has been common [3-5].

In our patient, considering the early epistaxis history, the initial place of the leech may be the same nasopharynx that has been displaced later. In most of reported cases including in Turkey, leech infestation has been occurred in oral cavity and nasopharynx and it has been often associated with anemia [3, 5]; while bite site in our patient was reported as hypopharynx without anemia and this lack of anemia may be due to underlying obstructive lung disease and/or the duration of leech infestation which is not so long.

The leeches sticking to the inner line should be slackened by salt water solution and even sometimes by lidocaine, due to their tight and shaft-like connection. Then, it should be taken out by forceps after that the patient is preferably anaesthetized; xylocaine should never poured on the leeches stuck on the pharyngeal mucosa or nasopharynx before the forceps is prepared, because the leech may immediately fall to the lower points after analgesia and stick to the deep mucosal areas that is hardly taken out and leads sometimes to aspiratory distress especially in children. However, in cases where the leech sticks on the skin, it may be easily removed by alcohol, salt water and vinegar [1, 4-8]. The reason why the leech was separated from the patient as introduced in this project was that we used xylocaine to desensitize the bottom of pharynx before starting bronchoscopy, but it didn't stick to other areas and no other complications was resulted.

Leech's initial adhesion is painless and the hirudin secreted from anticoagulant ectoparasites are very strong that is a reason for bleeding after separation and/or

movement of parasites; wound is healing slowly and bacterial infection is common [1].

Though the leech is found in respiratory tract, if it is not diagnosed accurately, it may cause some life-threatening complications. Thus, leech infestation should be considered as hemoptysis cases with unclear causes or nosebleeds. In rural areas, the people who use using springs or subterranean waters should be informed of the complications resulted by such ectoparasites. Furthermore, the physicians of such areas keep the patient early away from its serious complications considering such diagnosis.

Authors' Contributions

All authors had equal role in design, work, statistical analysis and manuscript writing.

Conflict of Interest

No conflict.

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