

Hoarseness due to leech ingestion

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Abstract

This paper presents a case of hoarseness caused by the pharyngolaryngeal localization of a leech. This pathological lesion is extremely rare in western European countries, but is more frequent in endemic areas. Possibly lethal dyspnoea, haemoptysis or haematemesis can be the revealing symptoms. When the diagnosis is suspected simple examination under anaesthesia and removal of the leech will effect a cure.

Key words: Dysphonia; Foreign bodies

Case report

A 60-year-old Yemenite man presented to the Yemen Specialized Hospital in Sana'a with progressive hoarseness of one month's duration, associated with blood-stained sputum for the first seven days. During the next three weeks the patient had three episodes of haemoptysis, (each between 10 and 40 ml). He then developed mild throat pain. No risk factors such as tobacco were noted and no other symptoms such as dysphagia, haematemesis, melaena or anaemia could be reported. After examination by indirect laryngoscopy, decreased motility of the left arytenoid and vocal folds, with oedematous epiglottitis, was noted. The left piriform sinus was not easily visible because of salivary stasis. The trachea seemed to be clear and cervical palpation showed that the neck was free of nodes. Before proceeding to endoscopy under general anaesthesia, a 10-day course of local treatment with betameclason in association with Solupred 40 mg orally per day was prescribed. Two days later the patient returned, having expectorated a live leech; his hoarseness vanished immediately. The leech specimen was black with no definite stripes or spots, 5.5 cm long and 1.5 cm wide (Figure 1). It was not possible to identify the species. At re-examination the patient showed normal motility of the pharyngolaryngeal wall. No ulcerative or erosive injuries in the pharyngolaryngeal area were found and no infectious complications were observed 10 days later. Retrospective history revealed that the patient remembered that he might have become infested two months earlier, by drinking outdoor stream water at night.

Discussion

The most common mode of presentation in leech endoparasitism is nasal infestation and recurrent unexplained epistaxis.¹⁻⁸ Leech endoparasitism should be considered as a cause of unexplained haematemesis in areas where aquatic leeches are commonly found. El-Awad and Patil² presented a case of haematemesis and melaena caused by leech infestation at the posterior pharyngeal wall and requiring blood transfusion; the

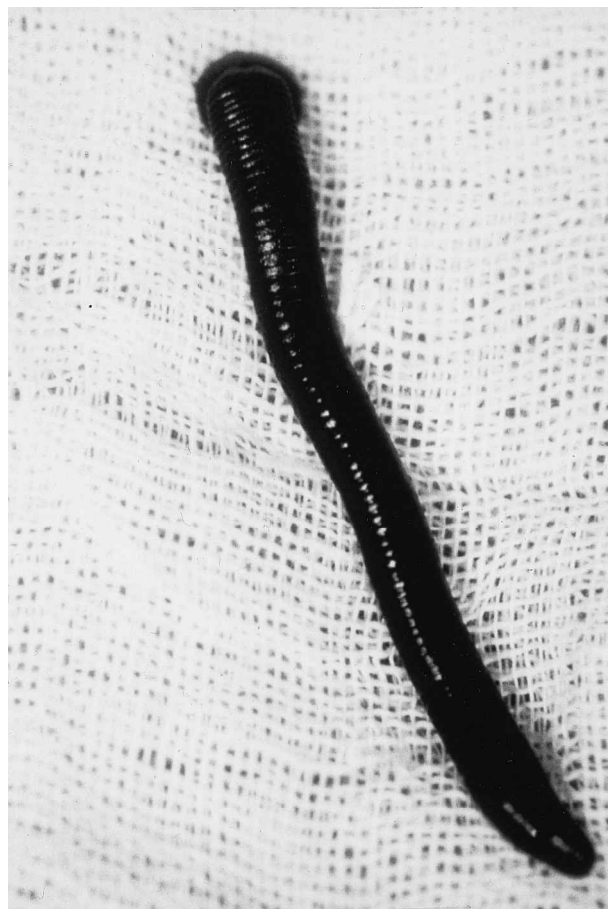


FIG. 1
Leech 5.5 cm long and 1.5 cm wide

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Accepted for publication: 8 October 1999.

patient came from the southern region of Saudi Arabia. Another case was noted by Campbell⁴ concerning a male patient from Indonesia infested by a nasal leech (*Dinobdella ferox*) that had gone unnoticed for at least three months. The possibility of leech endoparasitism should not be overlooked in patients (especially children) presenting with epistaxis or haemoptysis and a history of recent contact with freshwater lakes or streams in tropical countries.⁶⁻⁹

Some cases of such infestation have also been reported in Japan, mainly in southern Kyushu, owing to stream water drinking during a hot spring season.⁵ Bergua⁶ reported a case of an adult man with epistaxis caused by intranasal leech (*Limnatis lotica*) parasitisation in Europe. The only symptom in this case was low-flow nasal haemorrhage which did not cease with anterior tamponade. Examination of the left nasal fossa showed the presence of a long, very mobile, olive-green mass. When the leech had been extracted with a dissection forceps the haemorrhage stopped immediately. The patient had become infested when drinking water from a fountain in a rural area in the province of Teruel, northwest Spain.

There have also been sporadic reports of leech infestation in humans in East and Central Africa. Six cases of pharyngeal leeches (identified as *Myxobdella africana*) were reported by Cundall⁸ from a highland area of North Kenya. Three of these patients were severely anaemic and one died. The leeches had been ingested accidentally by drinking water from two infested water sources used by both cattle and humans. The major symptoms were an uncomfortable feeling of something in the throat, epistaxis and haemoptysis. Prompt blood transfusion was life-saving in two cases. Upon examination pharyngeal blood was a consistent feature, although the leech was rarely seen on initial inspection, as in our case report.

Another case concerning acute laryngotracheal obstruction in a 12-year-old boy was presented by Solomon in Ethiopia.¹⁰ After removing the leech from the larynx under general anaesthesia, this author emphasized that a high index of suspicion of leech infestation must be entertained when faced with acute respiratory distress associated with haemoptysis in children, and should be investigated surgically as with all foreign bodies.

Examination under anaesthesia has been successful in locating and removing the leech in most cases.^{6-8,11-13} *Dinobdella ferox* is found widely in southeast Asia and can be identified by certain special characteristics: auricles on the posterior segment are absent; five pairs of eyes are present in the anterior segment, with eye pairs three and four separated by an annulus; and teeth are not observed. Other leeches have also been described, such as *Limnatis paluda*, known to occur as a parasite in the respiratory tract of herbivorous animals, but found in a man in an area of Saudi Arabia.¹²

The physiology of leech infestation is well known, especially for *Hirudo medicinalis*. Leeches bite warm surfaces and ingest blood meals averaging 890 per cent of their weight. Satiation lasts 12-18 months, during which time the leech avoids warm surfaces and will not bite. The segmental nervous system of the leech is distinguished by a population of neurons containing serotonin (5-hydroxytryptamine, 5-HT) at high concentrations.¹⁴ Some of these identified 5-HT neurons directly activate the effectors responsible for three physiological components of feeding: salivary secretion, bite-like movements and pharyngeal peristalsis.¹⁵ Serotonin plays an obligatory role in the

initiation and expression of leech feeding behaviour by its differential modulation of central neuronal networks and peripheral glands and muscles.

For surgeons leeches possess properties that make them useful when the venous tissue is compromised. *Hirudo medicinalis* is the species most commonly used in Europe and the United States. Its saliva contains an anticoagulant and a histamine-like vasodilator that promote local bleeding (which explains the haemorrhage-like epistaxis or haematemesis), a local anaesthetic (explaining the painless feeling) and hyaluronidase. Leeches are still used to provide critical venous outflow for compromised tissue replantations and transfers that might otherwise be unsalvageable.¹⁶ This explains why bleeding may be observed. On the other hand, the potential local effects of local or general corticosteroids on the leech and on spontaneous expectoration remain obscure.

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