RARE LIVING HYPOPHARYNGEAL FOREIGN BODY

Matthias Kuehnemund, MD, Friedrich Bootz, MD

Department of Otorhinolaryngology, Medical School, University of Bonn, Sigmund-Freud-Str. 25, 53105 Bonn, Germany. E-mail: Matthias.Kuehnemund@ukb.uni-bonn.de

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Abstract: Background. This is a case report about a rare hypopharyngeal foreign body causing dysphagia, dyspnea, and hemoptysis as well as melena: an ingested leech. The patient was in this condition for more than 1 week.

Methods. The ingested leech, attached to the right piriform fossa partially obstructing the larynx, had to be removed under general anesthesia.

Results. After removal, no further symptoms occurred. The leech was identified as the species Theromyzon tessulatum.

Conclusions. Human infestation of a leech in the upper aerodigestive tract is a very rare condition in urban areas. The current literature is reviewed and the diagnostic approach as well as therapeutic options are discussed.

Keywords: leech; Theromyzon tessulatum; hypopharynx; larynx; dysphagia; dyspnea; hemoptysis

We report a case of a 36-year-old man who ingested a leech when drinking water from a mountain spring. The leech attached to the right piriform fossa, partially obstructing the larynx. Such a case is very rare in urban areas.

CASE REPORT

A 34-year-old man complained about a foreign body sensation in his throat, recurrent hemoptysis, and dysphagia. Initially symptoms occurred after having drunk water from a mountain spring in a Spanish national park. Suspecting the ingestion of a leech, the patient started swallowing pure salt and self-induced vomiting but did not recover. After 4 days, he was examined in a local hospital, where a routine blood test, a chest X-ray, and a physical examination revealed no cause for this pathologic condition. Meanwhile, symptoms of melena and progressive nocturnal dyspnea appeared, forcing the patient to sleep in a sitting position. In this condition, he was admitted to our Ear-Nose-Throat-Department (University-Hospital Bonn, Germany) 1 week after initial complaints.

The oropharyngoscopy showed small blood clots at the posterior pharyngeal wall. Flexible transnasal laryngoscopy revealed a worm-like moving foreign body of green-brown color clinging to the right piriform fossa and snaking down into the larynx, partially obstructing it. Further ENT examination as well as a blood count and clotting test were normal.

An attempt to extract the foreign body under local anesthesia failed. Hereafter, under general anesthesia, the microlaryngoscopic extraction of the foreign body in the right piriform fossa and larynx was performed (Figure 1). Provisionally, it was identified as a leech of approximately 5 cm in
length. Further manifestations of additional leeches were excluded by a tracheobronchoscopy and esophagoscopy. A minor bleeding occurred at the extraction site, which stopped spontaneously. Additionally, 2 mL tranexam-acid was applied locally to prevent further bleeding. After regular overnight surveillance, the patient was dismissed in good condition.

By zoological analysis, the presumptive leech was identified as the duck leech *Theromyzon tessulatum* (Figure 2).

**DISCUSSION**

To our knowledge, this is the first report about a hypopharyngeal manifestation of the duck leech *Theromyzon tessulatum* in humans (medline search, keyword “Theromyzon tessulatum”). This species is common in the central and southwestern part of Europe. It mostly infests waterfowl and usually feeds on their nasal and pharyngeal mucosa. Human infestation of a leech, especially in urban areas, is very rare. It usually occurs in individuals who swim in streams or drink the infested water. After the contaminated water is drunk, the leech may attach anywhere along the upper aerodigestive tract. Possible sites are the nasal cavity, the oropharynx and hypopharynx, the larynx, the trachea, and the esophagus.

Depending on the site of attachment, symptoms may vary, but usually signs of blood loss can be seen, such as epistaxis, hemoptysis, melena, and severe anemia. Owing to the injection of anticoagulants into the hosts mucosa, leech-induced bleedings may persist over a longer period of time. Reports of nasal leeches in children presenting with a severe anemia are described in the literature. Signs of mechanical obstruction—unilateral nasal obstruction, dysphagia, dysphonia, or dyspnea—can progress over time, since the leech will increase its size with the time period of its feeding. Anemia and respiratory obstruction, in severe cases, may cause danger to health and life, especially in children, even possibly causing fatalities.

The removal of a leech in the upper aerodigestive tract should be performed with caution to prevent prolonged bleedings. It firmly attaches to the mucosa, with either the insertion of a proboscis (eg, *Theromyzon tessulatum*) or a triple-jawed mouth (eg, medical leech: *Hirudo medicinalis*). Various anticoagulant agents are known to be injected by a leech. For *Theromyzon tessulatum*, cytin (chymotrypsin inhibitor), tessulin (trypsin- and chymotrypsin inhibitor), therin (trypsin inhibitor), theromin (thrombin inhibitor), and therostatin (factor Xa inhibitor) have been identified. The medical leech injects hirudin among a cocktail of many other anticoagulants. One of many therapeutic applications of leeches results from this ability of local injection of anticoagulants, especially in the field of reconstructive surgery, preventing hemostasis in flaps.

Different methods of detaching a leech from the mucosa other than mechanical have been proposed, such as injection of local anesthetics or superficial application of toxic agents. This should be performed with great caution in hypopharyngeal or laryngeal manifestations to avoid mucosal edema, followed by possible dyspnea. In this case, the leech was removed easily with forceps without complications.
Concluding, the manifestation of a leech in the upper aerodigestive tract is a rare differential diagnosis in patients with signs of blood loss and mechanical obstruction in this field. For the removal of the leech, general anesthesia might be necessary. The extraction should be performed with great care to avoid prolonged bleedings and mucosal edema. Despite the anecdotal character of this case, we believe, that it is necessary to report it, because it is the only way otolaryngologists find a way to manage such unlikely, but possible diagnoses for laryngopharyngeal diseases in urban areas.

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