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A Leech in the Upper Airway Tract: Case Report in CHU Oran and Review of the Literature

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Abstract

We report an unusual case of hemoptysis, aphonia and the sensation of something in the throat observed in a 64-year-old patient, with emphysema historyand smoker, who was admitted at the department of pneumologia of EHU Oran, Algeria. After 48 hours of admission, at fibroscopy examination he was finally diagnosed with live foreign body, the patient spontaneously expelled aleech after local anesthesia by xylocaine. *Hirudo medicinalis* was identified byparasitological examination. A complete disappearance of symptoms and the evolution is rapidly favorable. In Algeria, leech infestation are not uncommon where 120 cases were described between 1962 and 1971 by Gerlach, so even unusual causes like leech infestation came up to be an important differential diagnosisof patient with sign of bleeding or obstruction of the upper airways a high index of suspicion is of great help to make an early diagnosis and ensure prompt treatment.

Keywords: Hemoptysis; *Hirudo medicinalis*; Fibroscopy examination; Byparasitological examination

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Introduction

Leeches (*Hirudo medicinalis*) have been used in medicine for thousands of years to treat a wide range of ailments. Nowadays, leeches are used successfully for only a few conditions, notably in the field of reconstructive or microsurgery. However, they can act like parasite and infest human which cause wide range of symptoms. The species of human importance (order: Gnathobdellida; family: Hirudinidae) are divided into land leeches and aquatic leeches. Aquatic leeches enter the human body through orifices and occur worldwide. Human infestation with land leeches is more common than with aquatic leeches, but the latter more commonly cause dangerous infestations [1]. Aquatic leeches live in fresh water and have weak jaws because they do not require attachment to the skin for feeding purposes but to the mucosa. Infestation is rare. Most cases occur in low-income countries where access to safe water is a problem [2]. Some cases have been reported from Europe [3]. Aquatic leeches enter the human body during swimming or drinking by attaching to the conjunctiva, mucousmembranes of the nose, larynx, pharynx, esophagus, urethra, vagina, or anus, or else. In this paper we report an unusual case of upper airways obstruction by leech infestation and we review some similar cases in the literature.

Case Report

M.A a 64-year-old male patient, from Saida city, with emphysema history and smoker, wasreferred from the Saidahospital to the department of pneumology of the EHU Oran for exploration of hemoptysis. At admission the patient presented abundant hemoptysis, dysphonia, pain and sensation of something in the throat. The patient was hemodynamically stable without fever. Theinitial ortholyringique, cardiaque, radiologic exploration, complete blood countand coagulation tests were normal. In the fibroscopique examination there was a bleeding from his vocal cords and a live dark brown mass could be seen on the pharyngeal surface. The removal of the parasite was impossibleso local anesthesia was instaured using xylocaine in order to paralyze the parasite. After fibrscopy the patient expelled the parasite and it was brought to the parasitology and medical mycology department of the CHU Oranand identified as themedicinal leech *Hirudo medicinalisn* (**Figure 1**). Retrospective history showed that the patient has a farm in rural area, nearby there is stream of

fresh water and he usually drinks this water. He has history with leech infestation in the past, he used traditional treatment by ingestion of chewing tobacco but this time this treatment was not effective. Bleeding ceased soon after the leech was expelled and discharged without any problem on the next day. Follow-up one week later revealed no further symptoms.

Discussion

Leeches belong to the Annelida phylum and Hirudinea class. Most of leeches are hematophagous, which makes them predominantly blood suckers that feed on blood from vertebrate and invertebrate animals. Almost 700 species of leeches have been described. Among them, 100 species are marine, 90 terrestrial and the rest of them live in freshwater.

Leeches are parasites that vary in color and range in length from a few millimeters to half a meter; they are cylindrical or leaf-like in shape, depending on the contraction of their bodies, Leech bodies are composed of 34 segments [2,4].

A leech has two suckers, one at each end. The mouth is located on the small sucker and has three jaws with sharp teeth that make a Y-shaped incision in the flesh [2].

In tropical regions, leech bites on the skin are a common event. However, serious consequences of leech bite injury to the internal viscera are uncommon. If they do occur, they can cause significant morbidity and may even be fatal [1]. The clinical symptoms are variable depending on location. Internal attachment of leeches in different areas of human body such as nose [5], pharynx [6], larynx [4], vagina [7], bronchi, eyes and rectum have been reported in several cases.

After the contaminated water is drunk, the leech may adhere to anywhere along the upper aero digestive tract. Possible areas are the nasal cavity oropharynx and hypopharynx, larynx, trachea, and esophagus

From that location they secrete a cocktail of anticoagulant substances among them hirudin, which inhibits coagulation of the blood and start to suck blood, leeches ingest blood averaging 890% of their weight, for these reasons they can cause severe anemia. They grow rapidly through blood sucking and may stay where they are for some weeks.

Leech endoparasitism described worldwide, and for the pharyngolaryngeal localization cases came from Africa (morocco, Ethiopia), India and Middle East (Turkey, Iran, Syria, Yemen) and one case from developed country Spain (**Table 1**). Our case is the first case described from Algeria in decades.

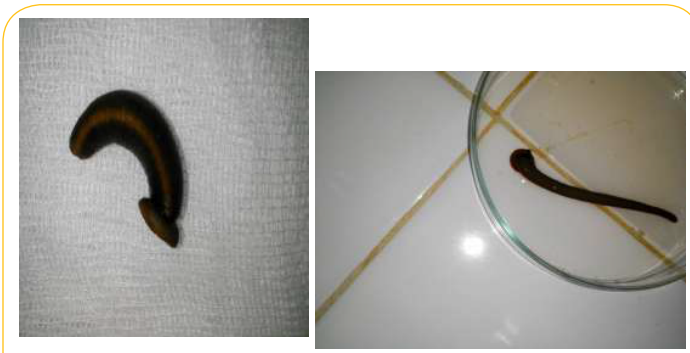

Figure 1 Photo chu oran service de parasitologie.

Aquatic leeches are common in Algeria where two species have been described *Hirudo medicinalis* and *Limnatis nilotica*. In the past leeches infestation were a major cause of morbidity and mortality for animals, and even cases of human infestation were described in French soldiers, travels and gerlach's series [8-10]. At present, the situation is unclear rarely described maybe because of adequate safe water supply and/or the use of traditional medication by the local population to remove the leech.

We also performed literature review about pharyngolaryngeal leeches infestation from 1999 to 2015. There are 17 cases reported in the literature (**Table 1**). The age distribution of patients is ranged from 17 months to 73 years. The male are more affected than female (11 vs 5).

The major symptoms reported are the result of bleeding such as hemoptysis, hematemesis and blood in sputum sometimes associated with symptom of obstruction (dysphonia, cough, sensation of something in the throat, dyspnea, and even suffocation) and fever in children. Any delay of diagnostic can lead to lethal complications such as severe anemia and suffocation.

The symptoms may be misdiagnosed as asthma, laryngitis, tuberculosis, hookwormand malignancies [11].

The diagnostic of leech infestation was done by laryngoscopy or fibroscopy. And in some cases until the patient spontaneously expelled the leech [9] and only in few reports diagnostic was suspected on the medical history of the patient.

All patients have a contact with exposed water; the mode of contamination is more likely drinking than swimming (**Table 1**)

Removal of leeches from the larynx is difficult, can be performed by direct laryngoscope with the patient under general or local anesthesia and the parasite is extracted with forceps, in fortunate cases the leech was spontaneously expelled by the patient [9], after application of xylocaine in our case or attached to the forceps [10].

In four reports patients consulted only when they failed to remove the leech with traditional medicine (ingestion of chewing tobacco as our patient, dehydratation….). The application of traditional medications may lead to dislodging of the leech deeper and may result in suffocation to death [2].

The length of leeches ranged from to 3.7 to 7 cm. Only 4 reports identified the leech to species level *Myxobdella Africana* in 6 cases from Kenya*, Limnatis linotica*in 2 cases from turkey *and Theromyzon tessulatum* in one cases from Spain [3,6,13-21].

After the removal the evolution is favorable and all patient discharged, in some cases blood transfusion or iron supplement were required to correct the anemia.

Conclusion

Leeches endoparasitism should be included in the differential diagnosis of patients with hemoptysis and or signs of airways

Table 1 Literature review about laryngeal leech infestation.

Country (area)	Age/Gender	Mode of contamination	Symptoms	Complications	Duration	Diagnostic	Removal	Leech (lengh(cm))	Evolution	References
Morocco	17 m/M	Swimming 15	Hematemesis Pallor Fever 38°C POLYPNEIQUE Cough	Respiratory distress ANEMIA	One week	Fibroscopy One week endoscopy	forceps	5/1.5	discharged	[8]
Yemen	60/M	Drinking 2 months	Progressive hoarseness, blood stained sputum, mild throat pain Hemoptysis		One month	Indirect laryngoscopy – One month	Spontaneously expelled	5.5/1	discharged	[9]
India	48/M	Drinking	Cyanotic Severe breathlessness Difficulty of speaking Inspiratory stidor with bilateral decreased air		3 hours	Indirect laryngoscopy 3hours	Direct laryngoscopy Attached to the forceps	5/0.5	discharged	[10]
Turkey	7/M		spitting blood inspiratory stridor			Indirect laryngoscopy	Direct laryngoscpy General anesthesia forceps		discharged	[4]
	35/M		spitting blood		3 months	Indirect laryngoscopy	Direct laryngoscopy local anaesthesia	5		
	8/F		spitting blood, difficulty in breathing inspiratory stridor			Indirect laryngoscopy	Direct laryngoscpy General anesthesia forceps	4		
	42/M		spitting blood, dysphagia feeling of a foreign body in the throat		2 weeks	Indirect laryngoscopy 2 weeks	Direct laryngoscopy local anaesthesia forceps			
Syria	6/M	Drinking	Cough; hemoptysis; sensation of suffocation; stridor	Severe respiratory distress Cachectic Cyanotic pale	3 hours	Indirect mirror laryngoscopy 3 hours One month	General anesthesia forceps	7	discharged	[11]
Morocco	38 /F	Drinking	Toux, hemoptysis, dyspnea, aphonie		10 days	Fibroscopy	Laryngoscpie direct forceps	4cm	discharged	[12]

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Country (area)	Age/Gender	Mode of contamination	Symptoms	Complications	Duration	Diagnostic	Removal	Leech (lengh(cm))	Evolution	References
Spain	34/M	drinking	a foreign body sensation in his throat hemoptysis dysphagia recurrend hemoptysis dysphagia melena and progessive nocturnal dyspnea		1 week	transnasal laryngoscopy 1 week	local anesthesia failed under general anesthesia, the microlaryngo-scopic extraction	Theromyzon tessulatum 5cm		[3]
Turkey	5/F	Drinking	Vomiting fresh blood Epistaxis, Pallor Tachycardie fever	anemia	3 days	Laryngoscopy	Local anesthesia	Limnatis nilotica 3.7/0.7	discharged	[13]
Turkey	8/F	Drinking	several days hemoptysis subfebrile				forceps	Limnatis linotica 5/1	discharged	[6]
Iran	73/M	Drinking	intermittent hemoptysis, dysphagia,dyspnea stridor			fiberoptic laryngoscopy	4 ml lidocaine		discharged	[14]
Iran	41/F	Drinking	Respiratory distress Tachypnea, stridor, feeling something in the throat vomiting nausea			laryngoscopy	General anesthesia Lidocaine forceps		discharged	[15]
Morocco	71/F	Drinking	hemoptysis	anemia	8 days	Expelled from the nose		7/1.5	discharged	[16]
Ethiopia	7/M	Drinking	Blood stained saliva, shortness of breath	Anemia	14 days	Laryngoscopy	Forceps General anesthesia	6	discharged	[2]
Iran	64/M	Drinking 8	Hemoptysis ,sensation of foreign body, dysphonia, mild respiratory distress			Indirect laryngoscopy	General annsethesia Rigide laryngoscopy forceps	5.5	discharged	[17]

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obstruction, especially in patients with a history of contact with unfiltered water where aquatic leeches are commonly found. Cases such as this should be considered as emergencies, and all measures should be taken to avoid complications and death. Therefore, to prevent leech infestation in endemic regions, local people are advised to be informed more effectively about the necessity to use safe water.

References

1 Heukelbach J, Hengge UR (2009) Bed bugs, leeches and hookworm larvae in the skin. Clin Dermatol 27: 285-290.

2 Mekonnen D (2013) Leech infestation: The unsual cause of upper airways obstruction. RthiopnJ Health Sci 23: 1.

3 Kuehnemund M, Bootz F (2006) Rare living hypopharyngeal foreign body. Head Neck 28: 1046-1048.

4 Kaygusuz I, Yalcin S, Keles E (2001) Leeches in the larynx. Eur Arch Otolaryngol 258: 455-457.

5 Ghimire A, Acharya A (2008) Unusual cause of unilateral epi-staxis: nasal leech infestation. JNMA J Nepal Med Assoc 47: 38-40.

6 Bulent A, Ilknur O, Beray S, Tulin C, Ulku T, et al. (2010) An unusual cause of hemoptysis in a child: live leech in the posterior pharynx. Trop Biomed 27: 208-210.

7 Hailemariam B (1995) Post-menopausal vaginal bleeding due to vaginal wall leech infestation. Ethiop Med J 33: 183-185.

8 Iraqi M R, Squali FZ (1999) Hématémèse et obstruction des voies respiratoires dues à la sangsue. Archives de pédiatrie 6: 479-480.

9 Al-Hadrani DC, Faucon F, Fingerhut A (2000) Hoarseness due to leech ingestion. The Journal of Laryngology and Otology 14: 145–146.

10 Pandey CK, Sharma R, Baronia, Agarwal A, Singh N (2000) An unsual cause of respiratory distress: live leech in the larynx. Anest Anal 90: 1227-1228.

11 Mohammad Y, Rostum M, Dubaybo BA (2002) Laryngeal hirudiniasis: an unusual cause of airway obstruction and hemoptysis. Pediatr Pulmonol 33: 224-226.

12 Amara B, Aakka M, Elhord S, Elbouzidi R, Rahimi H, et al. (2006) Une cause inhabituelle d'hémoptysie : la sangsue. Rev Pneumol Clin 62: 252-254.

13 Agin H, Ayhan FY, Gulfidan G, Cevik D, Derebasi H (2008) Severe anemia due to the pharyngeal leech Lim-natis nilo-tica in a child. Turkiye parazitol derg 32: 247-248.

14 Rahimi-Rad MH, Alizadeh E, Samarei R (2011) Aquatic leech as a rare cause of respiratory distress and hemoptysis. Pneumologia 60: 85-86.

15 Vegari S, Ghaffarlou M, Davarimajd L, EJ Golzari (2012) Globus sensation due to a mobile foreign body in 41-year-old female.Journal of cardiovascular and thoracic research 4: 29-30.

16 Hanim FZ, Bourkadi JE, Cherkaoui FZ, Soualhi M, Zahraoui R, (2012) Cause inhabituelle d'hémoptysie : la sangsue. Revue de Pneumologie clinique 68: 327-328.

17 Rajati M, Irani S, Khadivi E, Bakhshaee M (2014) An Unusual Cause of Dysphonia with Hemoptysis: A Laryngeal Live Leech . Iranian Journal of Otorhinolaryngology 26: 181-183.

18 Gerlach A, Gerlach Z (1975) Leeches in the respiratory system. Laryngol Rhinol Otol 54: 123–132.

19 Morel (1948) Les sangsues pathogens. Le Chasseur Français N°620 Juin 1948 Page 133.

20 VitalM A (1938) observation de sangsue dans la trachee artere-Bronchotomie-guerison.Encyclograpie des science medicale 28-30.

21 Cundall DB, Whitehead SM, Hechtel F (1986) Severe anaemia and death due to the pharyngeal leech Myxobdella afri-cana.Trans R Soc Trop Med Hyg 80: 940-944.