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Author(s)	Chow, CK; Wong, SSY; Ho, ACW; Lau, SKP
Citation	Hong Kong Medical Journal, 2005, v. 11 n. 2, p. 110-112
Issued Date	2005
URL	http://hdl.handle.net/10722/45429
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CK Chow 周振權
SSY Wong 黃世賢
ACW Ho 何頌偉
SKP Lau 劉嘉珮

Unilateral epistaxis after swimming in a stream

山澗游泳後出現單邊鼻孔出血

A 55-year-old Chinese woman presented with a 3-week history of unilateral left-sided epistaxis and nasal obstruction. She had swum in a freshwater stream 1 month prior to the onset of symptoms. Endoscopic examination revealed a live leech at the left middle meatus with a large part of its body inside the left maxillary antrum. Local anaesthetic was applied to anaesthetise the leech and facilitate removal. Magnetic resonance imaging performed following removal confirmed that no other leeches were present in the sinonasal area. The endoparasitism might have persisted because of the inconspicuous site of infestation and the absence of pain. This form of leech infestation has not been previously reported.

本文報告一名55歲中國籍女士，連續三星期出現左鼻孔出血及閉塞。在病發前一個月，她曾經在淡水山澗游泳。內窺鏡檢查發現一活水蛭藏於左上頰骨竇並露出中鼻道。水蛭先用藥麻醉然後取出。磁力共振成像證實水蛭完全取出，鼻竇範圍亦再沒有發現水蛭。內寄生物可能寄生於身體內不容易察覺的位置，而且不會令患者痛楚。這是首宗水蛭寄生於鼻竇的病例報告。

Case report

A 55-year-old Chinese woman presented with a 3-week history of unilateral left-sided epistaxis and nasal obstruction. She had no hoarseness, dyspnoea, or difficulty in swallowing, but had an intermittent sensation of a mass inside the left nostril. She visited her family doctor who discovered a brownish mass in her left nostril. Attempts to remove the mass failed because of profuse epistaxis. She was referred to the Emergency Department where a moving “worm” was noticed in left nostril. A second attempt at removal was unsuccessful because the “worm” retracted into the nostril and disappeared. She was subsequently admitted to the Otorhinolaryngology Department. On examination, she was mildly anaemic with a haemoglobin level of 111 g/L (reference range, 115-165 g/L) and a haematocrit of 34% (reference range, 37%-47%). Other blood chemistry parameters were normal.

Anterior rhinoscopy with headlight revealed an engorged nasal mucosa in the left nostril, but the “worm” could not be visualised. Indirect mirror examination of the postnasal region was also unremarkable. Endoscopic examination with a 2.7-mm rigid telescope was performed following nasal packing with 5% cocaine to achieve nasal decongestion and local anaesthesia. A live leech was noticed at the left middle meatus with a large part of its body inside the left maxillary antrum (Fig 1). Five percent xylocaine nasal spray was applied to the left middle meatus to anaesthetise the leech and facilitate removal. After 2 minutes, the leech moved slowly out of the antrum and was retrieved with forceps.

Key words:

Epistaxis;
Foreign bodies;
Leeches;
Parasitic diseases;
Rivers

關鍵詞：

鼻孔出血；
異物；
水蛭；
寄生物疾病；
河流

Hong Kong Med J 2005;11:110-2

University of Hong Kong, Queen Mary Hospital, Pokfulam Road, Hong Kong; Division of Otorhinolaryngology, Department of Surgery

CK Chow, MB, ChB, FRCS (Edin)

ACW Ho, MB, BS, MRCS

Department of Microbiology

SSY Wong, MB, BS, MRCPath

SKP Lau, MB, BS, MRCP

Correspondence to: Dr CK Chow
(e-mail: ckchow@hkucc.hku.hk)



Fig 1. A live leech in the left nostril

Magnetic resonance imaging of the paranasal sinus revealed only congested nasal mucosa and confirmed complete removal of leech.

The leech was dark brown in colour with a larger posterior and a smaller anterior sucker (Fig 2). It measured about 5 cm long and 0.5 cm wide at rest and was actively mobile with an “inch-worm”-like crawling motion. Upon enquiry, the patient disclosed that she had swum in a freshwater stream 1 month prior to the onset of symptoms. She had washed her face in the stream water, but denied any aspiration of stream water during swimming. Further enquiry revealed that another member of her hiking group also suffered from leech infestation in his nose after washing his face in the same stream.

Discussion

Unilateral epistaxis is commonly due to foreign bodies or benign or malignant neoplasms. Parasitic infestation is a rare cause, although the most important are myiasis and leech infestation.¹ According to the patient’s history, nasal leech infestation was associated with face washing in a leech-inhabited freshwater stream. This is a rare clinical problem in an urban area and the diagnosis may be missed. If the leech had lodged in the laryngeal inlet, suffocation could have occurred. The leech is a blood-sucking annelid. Both aquatic and land leeches are known to attack humans.¹ Aquatic leeches have a freshwater habitat and are worldwide in distribution.



Fig 2. A dark brown-coloured leech with a large posterior and small anterior sucker

Because of their weaker jaws, aquatic leeches normally enter the orifices and feed on mucosal surfaces of the upper aerodigestive tract (nasopharynx, larynx, oesophagus, trachea, or even bronchi), lower genitourinary tract (urethra and vagina), and, rarely, the eyes.² Entrance can occur following exposure to freshwater, such as swimming and bathing, or as a result of ingestion. Because these locations are not readily visualised, endoscopic assessment is generally required for diagnosis.

The most common presentation of aquatic leech endoparasitism is nasal infestation with recurrent unprovoked epistaxis.³ The endoparasitism may be prolonged, because of the inconspicuous site of involvement and the absence of pain. This is related to the release of leech saliva that has local anaesthetic properties. Leeches can ingest an amount of blood equivalent to 890% of their body weight.⁴ Affected individuals can develop severe anaemia and require blood transfusion.⁵ In our patient, the leech initially could not be visualised because it retracted into the left maxillary antrum during light examination. Sinonasal leech infestation has not been previously reported. Magnetic resonance imaging following leech removal confirmed that no other leeches were present in the sinonasal area. Patients who present with unprovoked epistaxis, haemoptysis, and nasal obstruction should be questioned about previous contact with freshwater. Visualisation and thus diagnosis are relatively easy if the leech is in the nasal cavity. Nonetheless, if the parasite is lodged in the nasopharynx or the maxillary antrum, endoscopic examination under local anaesthesia is essential.

Direct removal of a live leech might be difficult because of its powerful attachment to the mucosa and

its slimy and mobile body.⁶ Once the leech has been endoscopically visualised, it can be paralysed using cocaine or other local anaesthetic including xylocaine and readily removed. Asphyxiation may occur if the leech lodges in the larynx, hypopharynx, or the laryngeal inlet. An emergency direct laryngoscopy and removal under general anaesthesia is then essential.^{6,7}

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