

Vaginal hirudiniasis from Dhaherah Province, Oman: With a Note on Internal Hirudiniasis

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علق مهبلي من الظاهرة، عمان: مع نبذة عن العلق الداخلي

الملخص: وصلت لمستشفى عبري سيده في سن الخامسة والسبعين من الظاهرة وكانت تشكو من نزيف مهبلي. تم أخذ خزعة (عينة) من عنق الرحم وكان النسيج طبيعياً. أخرج كائن يشبه الدودة من مهبل السيدة. أكدت الدراسة المختبرية للكائن تشخيص حالة علق مهبلي قد يعزى للإصابة بالبحيراء النيلية مما استدعى إضافة نبذة عن العلق الداخلي.
المفردات المفتاحية: داء العلق الداخلي . المهبل . تقرير حالة . البحيراء النيلية . عمان.

ABSTRACT A 75 years old lady from the Dhaherah Province, Oman, presented at Ibri Hospital, complaining from abnormal vaginal bleeding. Histopathological investigations of a cervical biopsy revealed no atypical features. A worm-like organism was removed from the vagina. Histocytological investigations of the organism revealed typical structures of a leech. The case was identified as vaginal hirudiniasis, probably due to *Limnatis nilotica* that necessitated a note on internal hirudiniasis.

Keywords: internal hirudiniasis, vagina, *Limnatis nilotica*, Case report, Oman.

LEECHES OF THE CLASS HIRUDINEA MAY BE aquatic, terrestrial, or amphibious in their habitat. They are characteristically bloodsuckers and, like ticks, are adapted to engorge large amounts of blood. They have a twofold medicinal importance: a) as an aid used for bloodletting and b) as injurious to man, painlessly inserting their jaws in the skin or mucus membrane of man and produce trickling blood. The medicinal leech (*Hirudo medicinalis*) has been linked to the practice of medicine for years untold. Its use for blood letting peaked in the mid 1800s. Recently it was used by microvascular and plastic surgeons and by the public, who used it for the treatment of black eyes and varicose veins.¹ Internal hirudiniasis is due to aquatic leeches taken into the mouth or gaining entrance to the genitourinary tract (vulva, vagina and urethra), nostrils or conjunctiva from water.² The presence of leeches in the throat and upper air passages is by far most common than vaginal hirudiniasis. Medically important leeches mostly belong to the genus *Limnatis* and were

reported from various countries in Africa, Asia, Southern Europe and America.^{3,4} Human infection with the most notorious species *Limnatis nilotica*^{5,6} which lives in small streams, springs, wells, water-troughs, ponds, ditches and reservoirs⁷ has been recorded in most of the Middle Eastern countries,⁴ Oman⁷ and Yemen.⁸

THE CASE

A slide containing two sections of a worm was received at the Clinical Microbiology Laboratory, Sultan Qaboos University Hospital, for identification from the Department of Histopathology and Cytopathology, Royal Hospital, Muscat, Sultanate of Oman, with the comment "worm from vagina, have you seen something like this before? The worm was removed from the vagina of a 75 years old lady". The specimen was originally sent from Ibri Hospital, Dhaherah Province, Sultanate of Oman. The Royal Hospital, also received a white membranous fragment, 1 cm, of cervical biopsy.

Naked eye examination, considering the size, gave

Table 1: Summary of manifestations and management of internal hirudiniasis reported from the region

| Country | Number and age of affected individuals | Site of infestation | Clinical presentation | Methods of removal | Treatment |
|---|--|----------------------------|--|--|---|
| Iraq ³ | 9 (3-60) years | Nose, larynx, behind uvula | Bleeding, epistaxis, cough | Detachment by forceps | |
| Iraq ⁴ | 60 years male | Under vocal cord | Cough, hoarseness and hemoptysis | Lignocaine | - |
| Ethiopia ¹³ | 50 years female | Posterior vaginal fornix | Bleeding and anaemia | 1% Lidocaine | Blood transfusion |
| Ethiopia ¹⁴ | | Larynx | Obstruction? | Local anaesthetic | - |
| Ethiopia ¹⁵ | | Vaginal wall | Bleeding | Detachment by forceps | - |
| India ¹⁶ | 16 years female | Uterine cavity | Bleeding | Dilatation & curettage | - |
| India ¹⁷ | 14 + (3-36) years | Nose and nasopharynx | Nasal blockage, bleeding, earache, epistaxis, headache, crawling sensation or pain | Weak solution of chloroform and turpentine oil | Zylocain drops, nasal packing in some cases |
| India ¹⁸ | 5 (3-12) years | Nostrils | Epistaxis, blockage of nostrils | Hypertonic saline | Symptomatic nasal packing |
| India ¹⁹ | - | Male urethra | Bleeding | - | - |
| India ²⁰ | - | Male urethra | Bleeding | - | - |
| Turkey ²¹ | Child | Eye | Ocular trauma, iris prolapse, subconjunctival haemorrhage | Extraction | Topical antibiotic and cycloplegic agent |
| Oman (<i>personal Communication</i>) | 18 years boy from Dhofar | Nose | Nasal blockage | Fire | |

the impression that the sections might be of *Taenia* segment/s that had incidentally entered the vagina. However, microscopic examination of the well-prepared sections and consultation of Pearse et al.⁹ revealed typical sections of a leech. The case was identified as vaginal hirudiniasis, probably due to *Limnatis nilotica*.

DISCUSSION

Small, young leeches can quickly enter the mouth or nostrils and attach to the wall of the respiratory passages, usually far back in the pharynx or larynx caus-

ing epistaxis and haemoptysis. They grow rapidly and reach a large size and often do much damage. Normally the puncture is not painful, but the wounds remain open for a long time and heal slowly, even when not infected with pyogenic organisms. Moreover, uncontrolled bleeding from the multiple abandoned sites has reportedly produced sufficient blood loss to cause anaemia and death.²

When a leech bites it excretes a local anaesthetic that allows it to bite and suck blood without causing pain to the host.¹⁰ It also secretes an anticoagulant (hirudin) from its salivary glands that inhibits

thrombin in the clotting process^{11,12} and histamine-like substances to prevent closure of capillaries^{6,12}, thus causing continuous bleeding even after the leech has dropped or been removed. In addition to the clinical symptoms presented in the table,^{3,4,13-21} other leech bite complications include bullae, haemorrhage, pruritus, wheal formation, necrosis and ulceration.²² The Table^{3,4,13-21} show that various methods were used to remove the leech. However, it is worthwhile mentioning that removal may be hastened by applying a few drops of brine, alcohol or vinegar to the site or a flame skillfully applied to the worm. The leech should not be pulled off forcibly, as the trauma resulting from the bite and from the leech jaws remaining in the lesion can predispose the lesion to malignancy.²³

Internal hirudiniasis is not uncommon in the Middle East, India, and Ethiopia^{3,4,13-20} and abnormal vaginal bleeding is common in internal hirudiniasis.^{13,15,16,24} However, the presentation of this old lady with abnormal vaginal bleeding was suggestive of cervicitis/carcinoma and the histopathological examination of the cervical biopsy report reads "initial and deeper sections show strips of superficial, keratotic squamous epithelium. No submucosa included, no atypical features noted". Although abnormal vaginal bleeding is one of the commonest complications among women, vaginal hirudiniasis has to be included in the differential diagnosis of abnormal vaginal bleeding, particularly in post-menopausal cases¹³ and girls.¹⁵ Also, attention should be given to leech infestation in the differential diagnosis of ocular trauma with iris prolapse in patients with a history of swimming in streams and lakes²¹ and so create awareness among professionals working in areas where aquatic leech infestation is prevalent.^{10,25}

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