



CASE REPORT

REVISED Case Report: A rare cause of vaginal bleeding at Keren Zonal Referral Hospital, Eritrea [version 2; peer review: 2 approved]

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Abstract

Vaginal bleeding due to leech infestation is a very uncommon but important gynaecological problem. This report presents the case of a 65-year-old woman who presented to Keren Regional Referral Hospital, Eritrea, with vaginal bleeding of two and half weeks duration, dizziness and fatigue. On the day of her admission complete blood count and speculum exam were done and she was diagnosed with anaemia due to cervical leech infestation. Routine speculum exam for vaginal bleeding is recommended in cases with history of holy water or springs visits to prevent unnecessary diagnostic tests and for rapid management.

Keywords

Leech, Vaginal bleeding, Anemia, Infestation, Case report

Open Peer Review

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	Invited Reviewers	
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version 1 09 Jan 2019	 report	 report

1. **Temesgen Tilahun** , Wollega University, Nekemte, Ethiopia

2. **Hossein Zarrinfar** , Mashhad University of Medical Sciences, Mashhad, Iran

Any reports and responses or comments on the article can be found at the end of the article.

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Author roles: **Abraha M:** Conceptualization, Data Curation, Investigation, Methodology, Supervision, Writing – Original Draft Preparation, Writing – Review & Editing; **Solomon S:** Conceptualization, Methodology, Writing – Original Draft Preparation, Writing – Review & Editing

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REVISED Amendments from Version 1

Generally, there were minor changes required in the whole manuscript. In the abstract section, I removed the word 'count' in 'complete blood cell count'. In the case presentation section, the word mother was replaced with the patient and the days duration with just 17 days.

In the discussion section, 'Great care should be taken in removing the worm from its attachment'. This means we tried to be meticulous with the procedure as it might hurt another part of the vagina during the process.

Any further responses from the reviewers can be found at the end of the article

Introduction

Leeches, which belong to the phylum Annelida and class Hirudinea, are blood-sucking parasites of most mammals, including humans. Though there are about 650 known species of leech, only a few of them are a threat to human health. People and livestock that walk close by and frequently have access to marsh areas or slow-moving streams and brooks are among the frequent victims of leech infestation¹. Moreover, there have been reports of climatic variation associated with leech infestation, where leeches are more frequently found in tropical and subtropical areas².

Leeches have a long slender body, 5–45mm, with an oral sucker as a mouth and caudal end for movement³. Leeches bite different body sites of victims, which includes the pharynx, larynx, oesophagus, rectum, vagina, urethra and bladder, which have been reported across different publications^{1,3,4}.

When leeches become in close contact with human bodies, they tend to attach themselves to the mucosal surfaces and secrete an anticoagulant that leads to excessive bleeding from the attachment site^{2,5}. If it is not diagnosed as early as possible, this seemingly harmless parasite, could lead to some life threatening anaemia and shock². In this paper we present a referral case of rare vaginal bleeding due to cervical leech infestation.

Case presentation

A 65-year-old para IV patient with no history of abortion, presented with vaginal bleeding of 17 days. She was referred to Keren Zonal Referral Hospital, Eritrea, from Adi-tekelezan Health Centre with a diagnosis of vaginitis.

Upon arrival, the general condition of the mother was stable. She had a fresh blood soaking her clothes. The patient reported that she was bleeding intermittently at home followed by big clots of blood. Since the start of the bleeding the patient was feeling dizzy and was becoming fatigued easily. A few days prior to admission to hospital, she was feeling an abnormal moving sensation in her abdomen. The patient stated that previous to her symptoms, she had visited Amne-Tekle Bahri, a holy

water nearby, to help her alleviate headache and psychological problems.

Upon thorough examination, the patient had blood pressure of 90/40 mm Hg (normal range 90/60 mm Hg to 120/80 mm Hg), pulse rate 140 beats per minute (normal range, 60 to 100 beats per minute) and respiratory rate 33 per minute (normal range, 12 to 18 breaths per minute). She had pale conjunctiva. The perineal area was stained with blood, the cervix was closed, and the uterus was normal in size and consistency. Speculum examination revealed an actively moving worm attached to the external orifice of the cervix (a similar visual representation can be seen in Tilahun (2015)⁶ Figure 1). Complete blood count showed a haemoglobin level of 4.6g/dl (normal range, 12 g/dL to 16.0 g/dL) and platelet count of 110,000 cells/microliter (normal range, $150 \times 10^3 \mu\text{L}$ to $400 \times 10^3 \mu\text{L}$). Abdominal ultrasound finding was normal.

The patient was transfused with two units of blood immediately and the bleeding site was gently washed with saline and a bit of alcohol to facilitate the detachment of the leech. With a lot of care, the leech was removed gently using sterile forceps. After stabilising the vital signs (respiratory rate 17 breaths per minute, blood pressure 110/80 mm Hg, pulse rate 80 beats per minute), the patient was sent home after four days with iron tablets and with advice to take a good preventive measures if she had ever to go to the holy water again. She was also informed to bring the accompanying family members who went with her if they showed any unusual symptoms. Pre-discharge complete blood cell count showed an increased Hg level of 8g/dl and platelet count of 120,000 cells/microliter. The patient was asked to come back after two weeks for follow-up. A speculum exam was done, and the attachment site was completely healed and no active bleeding was observed.

Discussion

Vaginal bleeding due to leech infestation is a very uncommon complaint in women visiting gynaecological and obstetrics departments⁷⁻⁹. Vaginal bleeding due to worm infestation could usually be missed if thorough investigations and physical examination are not done accordingly. A speculum exam should be done to see the source of bleeding and possible leeches before entertaining other differential diagnosis, especially if a patient reports visiting water bodies. Great care should be taken in removing the worm from its attachment as the procedure might also cause additional bleeding due to injury from the site of attachment and from the areas around it. It should not be forcefully removed as the jaws of the worm might remain at the bite site which might cause additional bleeding or lead to later malignancies¹⁰. Preventive measures such as self-checking after washing in ponds and waterfalls are necessary to minimize infestation and instructions should be given as part of routine health education. An awareness program should be initiated to inform clinicians working in clinics near such sources of water.

Consent

Written informed consent for the publication of the case report was obtained from the patient.

Data availability

No data is associated with this article.

Author information

MA was responsible for the gynaecological management of the patient while based at Keren Zonal Referral Hospital in 2012. SS was the nurse collaborating on this case while based at Halibet Hospital.

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Open Peer Review

Current Peer Review Status:  

Version 2

Reviewer Report 07 May 2021

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Temesgen Tilahun 

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I went through it and found it great. They modified it well. Thus, it can be indexed.

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Gynecology.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Version 1

Reviewer Report 20 August 2019

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Hossein Zarrinfar 

Mashhad University of Medical Sciences, Mashhad, Iran

In the manuscript entitled "Case Report: A rare cause of vaginal bleeding at Keren Zonal Referral Hospital, Eritrea", the authors have described vaginal bleeding. This manuscript is interesting and educational, but there is no figure related to the leech, that should be added. By the way, there are some grammatical and spelling errors in English too that should be corrected by an expert.

Abstract:

1. "This report presents the case of a 65-year-old woman who presented to Keren Regional Referral Hospital, Eritrea, with vaginal bleeding of two and half weeks duration, dizziness and fatigue. On the day of her admission complete blood cell count and speculum exam were done and she was diagnosed with anaemia due to cervical leech infestation". The sentences are unclear and need revision.
2. The conclusion should be revised according to study aim again. Hence, "Routine speculum exam for vaginal bleeding is recommended in cases with history of holy water or springs visits to prevent unnecessary diagnostic tests and for rapid management" to be omitted.

Introduction:

1. "...more frequently found in tropical and subtropical areas", this sentence needs another newer reference. Please add this¹.
2. "If it is not diagnosed as early Anaemia and shock" the sentences are unclear and needs a revision.

Discussion:

1. This section should be revised as predisposing factors to leeches in other studies. The conclusion should be revised according to study aim and the results again.

References

1. Hasanzadeh M, Zarrinfar H, Najjari M: Unusual vaginal bleeding due to a leech bite in a girl from a tropical area: A case report. *Rev Soc Bras Med Trop*. 2019; **52**: e20180425 [PubMed Abstract](#) | [Publisher Full Text](#)

Is the background of the case's history and progression described in sufficient detail?

Partly

Are enough details provided of any physical examination and diagnostic tests, treatment given and outcomes?

Partly

Is sufficient discussion included of the importance of the findings and their relevance to future understanding of disease processes, diagnosis or treatment?

No

Is the case presented with sufficient detail to be useful for other practitioners?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Microbiology, Mycology.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Reviewer Report 31 July 2019

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Abstract

- Line 5 'complete blood cell count' write as 'complete blood count'.

Case presentation

1. Good to replace the word 'mother' with 'patient'.
2. Line 2 '17 days duration' write as '17 days'.
3. 'a bit of alcohol to facilitate the detachment of the leech'. It is clear that alcohol is an irritant to the vagina. How did you use it? Is that contraindicated in the vagina? This needs explanation.
4. This patient was appointed for follow up but what happened then?
5. The authors must include a picture of the leech.

Discussion

- 'Great care should be taken in removing the worm from its attachment'. What does great care mean? Rather it is good if you recommend other techniques.

Is the background of the case's history and progression described in sufficient detail?

Yes

Are enough details provided of any physical examination and diagnostic tests, treatment given and outcomes?

Yes

Is sufficient discussion included of the importance of the findings and their relevance to future understanding of disease processes, diagnosis or treatment?

Partly

Is the case presented with sufficient detail to be useful for other practitioners?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Gynecology

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 06 Apr 2021

Million Abraha, Fairmed, Health for the poorest, Bern, Switzerland

Generally there were a minor changes required in the whole manuscript. In the abstract section I removed the word 'count' in 'complete blood cell count'. In the case presentation section the word mother was replaced with patient and the days duration with just 17 days.

In our practice we usually apply alcohol before we remove the leech from its attachment site.

Although alcohol can irritate the wounded mucosal surface, it can still help you in removing the leech as it irritate the leech at the same well. To best of our knowledge we still did not find if this contradicting to the idea that no alcohol should be used in removal of leechs.

The patient was appointed for follow up and the wounded site has healed and there was no fresh blood seen from the previous attachment site. We did not take a photo of the leech because initially there was no idea to publish it as the procedure was being done.

In discussion section, 'Great care should be taken in removing the worm from its attachment'. This means we tried to be meticulous with the procedure as it might hurt other part of the vagina during the process.

I hope i this was explanatory to the questions raised. Thank you everyone for their inputs.

Competing Interests: No competing interest.

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