Case Report

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Post-menopausal vaginal bleeding causing severe anemia due to leech infestation: a case report

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Introduction: Leech infestation in a 60-year-old post-menopausal woman caused vaginal bleeding and severe anemia. This case report documents the removal of the leeches, cessation of vaginal bleeding, and subsequent clinical improvement.
Case presentation: A 60-year-old para 7 post-menopausal woman presented with severe anemia secondary to postmenopausal vaginal bleeding lasting 2 weeks. Two leeches – one periurethral and one vaginal – were identified and removed following normal saline irrigation. She received five units of whole blood, resulting in an asymptomatic post-procedure course.
Discussion: Vaginal leech infestation is rare but still occurs in low-resource countries such as Ethiopia. When it occurs, it is usually in young women; however, in this case report, we present a 60-year-old post-menopausal woman. Additionally, infestation with two leeches is another fascinating and extremely rare finding. A high index of suspicion is critical in patients with vaginal bleeding and a history of river water exposure.
Conclusion: Since vaginal leech infestation can lead to postmenopausal vaginal bleeding and associated morbidities, it is important to maintain a suspicion for leech infestation as a cause in resource-limited countries, regardless of age.

Keywords: abnormal uterine bleeding (AUB), case report, Ethiopia, leech infestation, post-menopausal, severe anemia

Introduction

Leeches are blood-sucking aquatic parasites of the phylum Annelida and the class Hirudinea. They range in size from 5 mm to 45 cm and are found in freshwater lakes, ponds, and rivers. During feeding, leech saliva releases vasodilators, anticoagulants, and anesthetics that facilitate painless, prolonged bleeding[1].

Leech infestations have been reported in the nose, pharynx, larynx, esophagus, rectum, and bladder. They commonly affect children and those in unhygienic environments[2]. The most common symptom of leech infestation is continuous bleeding from sites of attachment.

Postmenopausal vaginal bleeding due to leech infestation is rare and must be distinguished from malignancies such as endometrial carcinoma[3]. Here we present a 60-year-old post-menopausal woman with severe anemia from vaginal leech infestation, highlighting the need for high clinical suspicion in rural, resource-limited settings. This case is reported in accordance with the SCARE 2025 guidelines[4].

HIGHLIGHTS

- A 60-year-old post-menopausal woman presented with vaginal bleeding due to a leech infestation, which is extremely rare in this age group.
- Abnormal uterine bleeding (AUB) in the postmenopausal period can easily be misdiagnosed, as it has numerous causes, including genital malignancies; leech infestation can be missed without heightened vigilance.
- Only a few case reports have described vaginal leech infestation causing severe anemia.
- Although infestation of the vagina by a single leech has been reported, to the best of our knowledge, no case of simultaneous infestation by two leeches in the genital tract has been reported.
- This case underscores the importance of maintaining a high index of suspicion for leech infestation as a cause of AUB in patients from rural areas where river water contact is prevalent.

Case presentation

A 60-year-old para 7 (all alive) postmenopausal woman presented with vaginal bleeding of 2 weeks duration. The bleeding was fresh, bright red, and excessive, mixed with clots, but not associated with pain or lower abdominal swelling. She had no bleeding from other body sites. During the week prior to her presentation at the hospital, she experienced palpitations, easy fatigability, dizziness, and vertigo.

All her deliveries had been at home and without complications. She did not report any history of postcoital vaginal bleeding, multiple sexual partners, or smoking. She had not had abnormal vaginal bleeding after menopause and before the current presentation. She was a farmer who used river water for household activities, including drinking, bathing, and douching.

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She presented to our hospital with the above complaints. Upon arrival at the hospital, she appeared acutely ill but was not in respiratory distress. Her vital signs were: blood pressure was borderline (BP = 92/60), and she was tachycardic (pulse rate = 118 beats per minute); others were normal (respiratory rate = 20, temperature = 36.7°C, SpO_2 = 95% on room air). On eye examination, she had severe pallor of the conjunctivae with non-icteric sclera. On cardiovascular examination, she was tachycardic, and an S3 gallop was heard, but there was no murmur or other abnormalities. Abdominal examination was unremarkable.

On genitourinary system evaluation, externally, the vulva and pubic hair were soaked with clotted blood, and there was a dark, approximately 6-cm-long worm attached to the periurethral area (Fig. 1). On speculum examination, a similar worm was found on the anterior vaginal wall, 3 cm from the external cervical os, with active bleeding, but no other genital tract abnormalities.

Diagnostic assessment

Laboratory investigations revealed hemoglobin (Hgb) of 3.6 g/dL, hematocrit of 12.3%, platelet count of 172 000, and a normal coagulation profile (prothrombin time, partial thromboplastin time, and international normalized ratio). Creatinine was 0.8 mg/dL, and serum glutamic oxaloacetic transaminase and serum glutamate pyruvate transaminase were normal. Blood group O+ve. An immediate bedside pelvic ultrasound was performed and showed no abnormality. The uterus was normal in size and shape, with normal endometrial thickness measuring 3 mm.

Therapeutic intervention

In the gynecologic emergency outpatient department, stabilization began with the ABCs of life. Intranasal oxygen support was provided. Bilateral 18G IV cannulae were inserted. Cross-matched blood was requested, and the blood transfusion was initiated; in total, five units of whole blood were transfused.



Figure 1. The leech attached in the periurethral area, viewed externally before removal, with a typical, segmented, elongated, dark brown appearance.



Figure 2. (A) Intact leech following successful removal from the periurethral area, placed on sterile gauze, having a characteristic segmented, elongated body with a sucker at its end. (B) Both leeches are seen after their removal, with a cylindrical, segmented, dark-brown appearance; their suckers are seen on the right side; localized bloodstains on the gauze indicate the leeches' recent feeding activity and the patient's bleeding.

After stabilization, the patient was placed in the dorsal lithotomy position. A speculum was inserted, and saline irrigation of the sites was performed. After approximately 5 minutes, both leeches detached spontaneously and were removed using ring forceps (Fig. 2A, B).

The patient had a smooth post-procedure period with normalized vital signs and improved general condition. Her Hgb after the blood transfusion was 9.8 g/dL. She was then discharged home with iron sulfate for 3 months, scheduled for a follow-up in 1 month to check her Hgb and overall status, and advised to avoid contact with river water.

Follow-up

a. *One month*: She was evaluated, and Hgb was checked. The patient was in a comfortable condition, and there was an increase in Hgb to 11.8 g/dL.

Table 1

CBC and coagulation profile parameters pre- and post-treatment.

	Pre-treatment	Post-treatment	1 month follow-up	3-month follow-up
WBC	7.4×10^3/μL	8.5×10^3/μL	9.2×10^3/μL	8.8×10^3/μL
Hgb	3.6 g/dL	9.8 g/dL	11.8 g/dL	12.9 g/dL
HCT	12.3%	30.4%	34.4%	36.8%
MCV	76.4 fL	94.4 fL	88.6fL	92.3fL
Platelets	172×10^3/μL	222×10^3/μL	245×10^3/μL	268×10^3/μL
RBC count	1.7×10^6/μL	5.2×10^6/ μL	5.5×10^6/ μL	5.8×10^6/ μL
Coagulation profile	PT = 13.5 sec aPTT = 31.3 sec INR = 0.9			

b. *Three months*: Her overall condition was good; her repeat Hgb test showed an improvement to 12.9 g/dL. With strict advice to avoid contact with river water, follow-up was discontinued.

Her investigations and clinical timeline are presented in Tables 1 and 2, respectively.

Discussion

Leeches are aquatic ectoparasites found in freshwater sources such as ponds and streams. They enter the human body through consumption of or exposure to contaminated water[2,5]. Although rare globally, leech infestations are still reported from underdeveloped countries such as Ethiopia due to continued contact with river water, as safe, clean tap water is often inaccessible[6,7]. People living in rural parts of resource-limited countries often use river water for drinking, bathing, and/or douching. This makes them susceptible to leech infestation and its consequences[8].

The true global burden of leech infestation is unknown, but the highest incidence occurs in tropical and subtropical regions of Africa, Asia, and South America[7]. Farmers and individuals with daily river-water contact had a six-fold increased risk of leech infestation compared with those using protected water sources[9].

Table 2

Patient timeline from symptom onset to 3-month follow-up.

Day/visit	Event	Key findings/actions
Day 0	Symptom onset	Vaginal bleeding
2 weeks	Hospital visit, assessment and labs	Vitals; speculum examination revealed two leeches in the genital area, Hgb = 4.3 g/dL Platelet = 172k; organ function tests and coagulation profile were normal
2 weeks	Intervention	Stabilization, three units of whole blood transfusion, Removal of the leeches
Post-procedure day 2	Post-procedure care	Post-procedure Hgb checked (9.8 g/dL), vital signs followed, Iron supplement provided, advised to avoid river water, then discharged
Follow-up		
1 month	Clinic follow-up	Well and improved general condition, Hgb = 11.8 g/dL
3 months	Clinic follow-up	Well looking, Hgb = 12.9 g/dL

Leech infestation can occur at different body orifices, including the vagina[10]. Vaginal leech infestation commonly results in bleeding, and, less commonly, bleeding can lead to anemia and hypovolemic shock[11]. Our patient, a farmer using river water for all activities, was exposed to leech infestation. Access to clean and safe water is key to preventing such tragedies[12,13].

Although young girls are more likely to be infested with leeches-[14], our patient was 60 years old. Our 60-year-old patient demonstrates that postmenopausal women remain susceptible, especially with cultural practices like douching with river water[15]. Predisposing factors included rural residence, being a farmer, cultural practices such as douching, lack of awareness regarding the risks of river water, and economic constraints preventing access to clean water.

Post-menopausal vaginal bleeding is always pathological and requires thorough evaluation. Endometrial cancer accounts for approximately 10% of cases of postmenopausal vaginal bleeding[16]. Vaginal leech infestation can be misdiagnosed as other genital malignancies[17]. ACOG recommends transvaginal ultrasound as the initial imaging modality, with endometrial biopsy if the thickness exceeds 4 mm[18]. Our patient's endometrial thickness was 3 mm, making significant endometrial pathology less likely; together with direct visualization of the two leeches and complete cessation of bleeding after their removal, this supported the diagnosis of leech-associated bleeding.

Leech saliva contains more than 100 bioactive proteins, including hirudin (a potent thrombin inhibitor), calin (which inhibits platelet adhesion), and vasodilators that cause prolonged local bleeding[19,20]. After detachment, bleeding may persist for hours to days. Our patient's 2 weeks of bleeding led to severe anemia (Hgb 3.6 g/dL), likely due to delayed diagnosis.

Most published cases describe children or young adults. Tilahun (2015) described a 70-year-old Ethiopian woman with a single vaginal leech causing hypovolemic shock[8], while Hailemariam (1995) reported a case of postmenopausal bleeding due to vaginal wall leech infestation[15]. Our case is unique for three reasons: the patient's age (60 years), a simultaneous double leech infestation (to the best of our knowledge, not previously reported), and the severity of anemia (Hgb level of 3.6 g/dL, requiring five units of blood).

Simple speculum examination remains the definitive diagnostic method[21]. Treatment has two components: supportive care (blood transfusion depending on the condition) and leech removal. Forcible detachment must be avoided to prevent rupture or retained jaws, which can cause infection and continued

bleeding. Instead, saline, vinegar, or lidocaine can induce spontaneous detachment[20]. We used normal saline, achieving detachment within 5 minutes. The leech was then removed with ring forceps.

Strength

This case describes a rare double leech infestation in a postmenopausal woman, adding to the limited literature and highlighting the need to consider uncommon causes of postmenopausal bleeding.

Limitations

As a single-case report, the findings may not be generalizable. In addition, we did not perform a histopathological examination of the leeches for species identification, nor did we have access to hysteroscopy or endometrial biopsy to completely exclude other causes.

Conclusion

Vaginal leech infestation, although rare, can occur in postmenopausal women and can cause severe anemia due to continuous vaginal bleeding. Clinicians should consider this diagnosis in older women from rural areas who present with vaginal bleeding and have a history of exposure to river water. Early recognition prevents complications. Access to clean water is essential for eradication of this infestation.

Patient perspective

When I came to the hospital, I had bothersome vaginal bleeding for a couple of weeks. I was very weak and easily fatigued. I thought surgery would be needed to stop my vaginal bleeding. But fortunately, I learned that worms were the cause, and with simple techniques, the doctors were able to remove them. I was told to avoid direct river water contact in the future as much as I can.

Ethical approval

Not required for individual case reports at our institution; case prepared in accordance with SCARE guidelines.

Consent

Written informed consent was obtained from the patient for publication of the clinical details and images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

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Author contributions

Z.G.M. was involved in patient management, conceptualization, drafting of the original manuscript, review of clinical data, and approval of the final version. D.Y.E. was involved in patient management, conceptualization of the case report, and writing, review, and editing of the manuscript.

Conflicts of interest disclosure

All authors declare that they have no competing interest.

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All data are contained within the article/figures. Additional de-identified data are available on reasonable request from the corresponding author. Details/repository are available on request.

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