CASE REPORT

Vaginal Leech Infestation: A Rare Cause of Hypovolumic Shock In Postmenopausal Woman

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ABSTRACT

BACKGROUND: Human leech infestation is a disease of the poor who live in rural areas and use water contaminated with leeches. Like any other body orifices, vagina can also be infested by leech when females use contaminated water for bathing and/or douching. Although this condition is very rare in postmenopausal women, it causes morbidities and mortalities.

CASE DETAILS: A 70 year old Para X (all alive) abortion I mother, postmenopausal for the last 20 years, presented with vaginal bleeding of 3 weeks duration to Gimbie Adventist Hospital, Western Ethiopia. On examination, she had deranged vital signs and there was a dark moving worm attached to the cervical os. She was admitted with the diagnosis of hypovolumic shock and severe anemia secondary to postmenopausal vaginal bleeding. After the patient was stabilized with intravenous crystalloids, the leech was removed from the vagina. She was then transfused with two units of whole blood and discharged with good condition on the 3rd post procedure day with ferrous sulphate.

CONCLUSION: Vaginal leech infestation in postmenopausal woman can cause hypovolumic shock and severe anemia. Therefore, in order to decrease morbidities from failure or delay in making the diagnosis, health care providers should consider the possibility of vaginal leech infestation in postmenopausal woman from rural areas and those who use river water for drinking, bathing and/or douching and presented with vaginal bleeding. In addition, the importance of using clean water and improving access to safe water should be emphasized.

KEYWORDS: vaginal leech infestation, postmenopausal vaginal bleeding, Ethiopia

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INTRODUCTION

Leeches are blood sucking water worms and are parasitic to man and other animals. They belong to the phylum Annelida, class Hirudinea. They are found in lakes, slow moving streams, ponds and marshes, and on moist vegetation in humid environments such as jungles (1, 2). Leeches are usually taken into the human body when using unfiltered or contaminated water to bathe, to drink, or to swim (3, 4).

There are reported leech infestations in various human body sites such as the nose, pharynx, larynx, esophagus, rectum and bladder (2). They attach to their hosts and remain there (5). They commonly affect children and people who live in unhygienic environments (2.)

Leeches possess different chemicals such as proteolytic inhibitors e.g hirudin, anesthetic, vasodilators and hyaluronidase. These chemicals play great roles in pathogenesis of leech infestation (6).

The most common symptom of leech infestation is continuous bleeding from sites of attachment. It may cause serious complications like lethal dyspnoea, haemoptysis, epistaxis, haematemesis , anemia or even death (3, 4, 5).

Postmenopausal bleeding refers to uterine bleeding in a menopausal woman. It accounts for about 5% of office gynecology visits (7). The causes of vaginal bleeding in post menopausal women include exogenous estrogens, atrophic endometritis, atrophic vaginitis, endometrial or

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cervical cancer and polyps, uterine sarcoma, urethral caruncles and trauma(1,8). This case is presented to show that hypovolumic shock and severe anemia secondary to vaginal bleeding in a woman of postmenopausal age group residing in rural areas could be caused by vaginal leech infestation and thus care providers should consider it when dealing with postmenopausal uterine bleeding. It also demonstrates the importance of advocating use of clean water and improving access to safe water.

CASE PRESENTATION

A 70 year old Para X (all alive) abortion I mother, postmenopausal for the last 20 years, presented with vaginal bleeding of 3 weeks duration to Gimbie Adventist Hospital. The bleeding was bright red, excessive, with clots and not associated with pain. She had no bleeding from other body sites. She was feeling as if something was moving in her vagina. Since the last week, she had palpitation, easy fatigability and vertigo.

All her deliveries had been at home and uneventful. She did not report history of postcoital bleeding, multiple sexual partners or smoking. She was a farmer who was using river water for drinking, bathing and douching.

For the above complaints, she visited the nearby health center and was referred to a public referral hospital where she was transfused with one unit of whole blood. After reevaluated in this hospital, she was referred to a better setup with the impression of cervical cancer.

On examination, she was acutely sick looking with deranged vital signs: blood pressure = 80/40 mm Hg, pulse rate = 120 beats per minute, respiratory rate = 28 breaths per minute and temperature = 35.6 °C. She had dry buccal mucosa and pale conjunctivae. Cardiovascular finding showed ejection systolic murmur with S_3 gallop. On pelvic examination, the vulva and thighs were soaked with blood and there was also active vaginal bleeding. Speculum exam showed a dark moving worm attached to cervical os (Figure 1).

Laboratory findings were: hemoglobin = 4g/dl, platelet count = 125,000 cells/microliter, normal leukocyte count and no parasite on stool examination. Bedside clotting test was 6 minutes but other coagulation parameters were not done. Abdominal ultrasound finding was normal.

Figure 1*: speculum exam showing leech attached to cervical of a 70 year old woman at Gimbie Adventist Hospital, Western Wollega, Ethiopia, march 2015*

With the diagnosis of hypovolumic shock and severe anemia secondary to blood loss secondary to vaginal leech infestation, the patiant was admitted to gynecology ward. After the patient was stabilized with intravenous crystalloids and compatible blood was prepared,at lithotomy position speculum was inserted. We instilled 50ml saline into the vagina and observed for 5 minutes. The leech was then suddenly detached from the cervix and removed with spongy forceps (Figure 2). Bleeding stopped soon after removal of the leech. She was transfused with 3 units of blood and discharged with good condition on the 3rd post procedure day with ferrous sulphate and advice to use clean water.

Figure 2: *Leech removed from vagina of 70 years old woman at Gimbie Adventist Hospital, Western Wollega, Ethiopia, March 2015*

DISCUSSION

People who are living in rural areas use river water for drinking, bathing and/or douching. This predisposes them for leech infestation (3). Our patient was a farmer who was using unfiltered river water for everything which exposed her to get vaginal leech infestation. This can easily be prevented by advocating importance and use of clean water, and improving access to safe water particularly for people living in rural areas (4).

Leech infestation presents with different symptoms based on sites of attachment. Continuous bleeding from site of attachment is the usual symptom. Due to the presence of anticoagulants in the saliva of the leech such as hirudin, bleeding may persist over a longer period of time. This may lead to fatal conditions like anemia to the extent of requiring blood transfusion (2, 9,10), as in our patient, or even death (3).

Postmenopausal vaginal bleeding is a serious gynecologic problem which requires rapid diagnostic and therapeutic measures (7, 8, 10). Its approach requires meticulous history and physical examinations since the differential diagnoses are wide (7). Our patient was having continuous vaginal bleeding for 3 weeks which made her develop hypovolumic shock and severe anemia. This might be because of delayed diagnosis of leech infestation which could be prevented by having high index of suspicion of vaginal leech infestation in postmenopausal woman residing in rural areas, using contaminated or unfiltered water for bathing or douching and presenting with vaginal bleeding. Simple speculum examination can confirm the diagnosis (2, 10) as in this case. Therefore, in postmenopausal vaginal bleeding, meticulous history and physical examinations with particular attention to the genitalia are very crucial in looking for rare causes as the case demonstrated above.

The management of leech infestation has two parts (1, 2, 3). The first one is supportive treatment comprising of resuscitation or blood transfusion based on the patients' condition. Our patient was resuscitated with intravenous crystalloids, transfused with blood and discharged with iron sulphate. The other important component of the management is removal of the leech from the vagina. The leech should not be forcibly removed because its jaws may remain in the wound, causing continuous bleeding and infection (2). Thus, its removal can be facilitated by applying salt, alcohol or vinegar to it, or paralyzing it by the application of local anesthetic agents like lidocaine (3, 9). In this case, we instilled normal saline into the vagina, and after 5 minutes the leech detach spontaneously. It was then removed with spongy forceps.

In conclusion, vaginal leech infestation in postmenopausal woman can cause hypovolumic shock and severe anemia due to continuous vaginal bleeding. Therefore, in order to decrease morbidities from failure or delay in making the diagnosis, health care providers should consider the possibility of vaginal leech infestation in postmenopausal woman from rural areas who use river water for drinking, bathing and/or douching and present with vaginal bleeding. In addition, the importance of using clean water and improving access to safe water should be emphasized.

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REFERENCES

1. Kibreab Asrat. Leech as a cause of abnormal vaginal bleeding: Presentation of three cases in adults. *Journal of Eritrean Medical Association*. http://www.ajol.info/index.php/jema/article/download/52122/40750
2. M Hasanzadeh Mofrad, R Shafiei, S Bolandi1, M Najjari, GR Hatam. Leech Bite: A Rare Cause of Postmenopausal Vaginal Bleeding. *Iran Red Crescent Med J 2012; 14(6):384-385.*
3. Yılmaz Zengin, Ercan Gündüz, Mustafa İçer, Recep Dursun, Hasan Mansur Durgun, Ahmet Gündüzalp, Mustafa Ekinci. A Rare Cause of Epistaxis due to Leech Infestation:A Case Report. *JAEMCR 2014; 5: 197-9 DOI: 10.5152/jaemcr.2014.181.*
4. Behçet AL, Mehmet Emin YENEN, Mustafa ALDEMİR. Rectal bleeding due to leech bite: a case report. *Turkish Journal of Trauma & Emergency Surgery. 2011;17 (1):83-86.*

5. Demeke Mekonnen. Leech Infestation: The Unusual Cause of Upper Airway Obstruction. *Ethiop J Health Sci. Mar 2013; 23(1): 65–68.*
6. Imad Ghazzawi,Firas Zuraiqat,Osila Burqan,Mohammad Najada. Leech infestation causing upper gastrointestinal bleeding. *JRMS June 2005;12(1):47-49.*
7. Annekathryn Goodman. The evaluation and management of uterine bleeding in postmenopausal women. Up-to-date, version 20.3; 2012.
8. Berek, Jonathan S. Berek & Novak's Gynecology, 14th Edition. Benign Diseases of the Female Reproductive Tract. Lippincott Williams & Wilkins;2007.
9. Mehmet Fatih Garça, M. Kürşat Yelken, Mehmet Hanifi Okur, Sevil Ari Yuca. *Leech* Infestation of the Nasopharynx; A Rare Cause of Epistaxis and HemorrhageEur *J Gen Med 2011;8(2):141-3*
10. Rahmani-Bilandi R, Mahmoudian A, Hamzei A. Postmenopausal vaginal bleeding after infesting with leeches. *Zahedan J Res Med Sci (ZJRMS) 2012; 14(4): 53-54.*