CASE REPORT: VAGINAL BLEEDING IN A CHILD DUE TO VAGINAL LEECH INFESTATION

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ABSTRACT

BACKGROUND: Vaginal bleeding during childhood is always abnormal, rare and warrants diagnostic evaluation. Leech infestation following exposure to leech infected water is a rare cause of vaginal bleeding. The definitive diagnosis relies on direct visualization of the leech.

CASE DETAILS: A 3 years old young girl presented with vaginal bleeding of 1 weeks duration on 28/10/2016 to Jimma university Hospital Medical Center, Ethiopia .On examination, she had normal vital signs. Her vulva was blood soaked. Following instillation of saline to the vagina, a dark moving worm in vaginal introits was found. The leech was removed from the vagina with help of suction tube and she was discharged with good condition on the second day of leech removal.

CONCLUSION: Instillation of saline to vagina is used for treatment and diagnosis in children with intact hymen.

KEYWORDS: Vaginal leech infestation, childhood vaginal bleeding.

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INTRODUCTION

Leeches are blood sucking worms with segmented bodies. They are invertebrates of phylum Annelida and class Hirudinea. A leech varies in size from about 5 mm to nearly 45 cm long. Leeches are primarily found in fresh water lakes, ponds, or rivers. They have a sucker at both ends. The anterior sucker, which is found at the head, creates the bite wound and is responsible for feeding. The other sucker is located at its tail, used for attachment to the host while feeding. To feed, a leech first attaches itself to the host using the suckers. One of these suckers surrounds the leech's mouth, which contains three sets of jaws that bite into the host's flesh, making a Y-shaped incision. As the leech begins to feed, its saliva releases chemicals that dilate blood vessels, thin the blood, and deaden the pain of the bite[1,3].

There are reported leech infestations in various human body sites such as the nose, pharynx, larynx, esophagus, rectum and bladder.They attach to their hosts and remain there. They commonly affect children and people who live in unhygienic environments. 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 [1, 2].

The most common symptom of leech infestation is continuous bleeding from sites of attachment. It may cause serious complications occur such as lethal dyspnoea, hemoptysis, epistaxis, hematemesis , anemia or even death [2,3,4].

The prevalence of childhood vaginal bleeding due to leech infestation is rare. The differential diagnosis of childhood vaginal bleeding includes trauma, tumor, neonatal bleeding, exogenous estrogen, precocious puberty, urethral prolapse, genital warts, lichen sclerosus, infectious vaginitis and foreign body [2,5].

CASE PRESENTATION

A 3 year old female child presented with vaginal bleeding of 1 week duration to Jimma University Hospital medical center. The bleeding was bright red, moderate, with clots and painless. She had no bleeding from other body sites. She had history of contact with river water. She was referred to our hospital from a nearby hospital. On examination, she was healthy looking with normal vital signs. On inspection, the vulva and thighs were soaked with blood and there was also minimal vaginal bleeding. Speculum examination was not done because of intact hymen and no pediatrics speculum in hospital. Following irrigation of the vulva, a dark moving worm in vaginal os was seen.

Laboratory findings were: hemoglobin = 11g/dl, platelet count = 278,000 cells/microliter, normal leukocyte count and no parasite on stool examination, PT=19.3sec, PTT=29.4sec, abdomino-pelvic ultrasound finding was normal.

With the diagnosis abnormal uterine bleeding secondary to vaginal leech infestation, the patient was admitted to the gynecology ward. After preparation on the next day, under ketamine anesthesia in the OR, she was put in lithotomy position. Foley catheter number 14 was inserted into vagina and irrigated with 500ml normal saline and 5ml of lemon fluid. After 5 minutes of irrigation, the leech detached and start to move in vaginal introitus. Due to intact hymen and narrow vagina it was not possible to remove the leech with sponge forceps or artery forceps. The leech was removed by suctioning using a small suction tube (Figure 1,2,3). The hymen was kept intact and the vaginal bleeding stopped then after. She was discharged in good condition on the 2nd post procedure day with advice to avoid contact with contaminated water, and to use clean water for drinking, swimming and for washing.

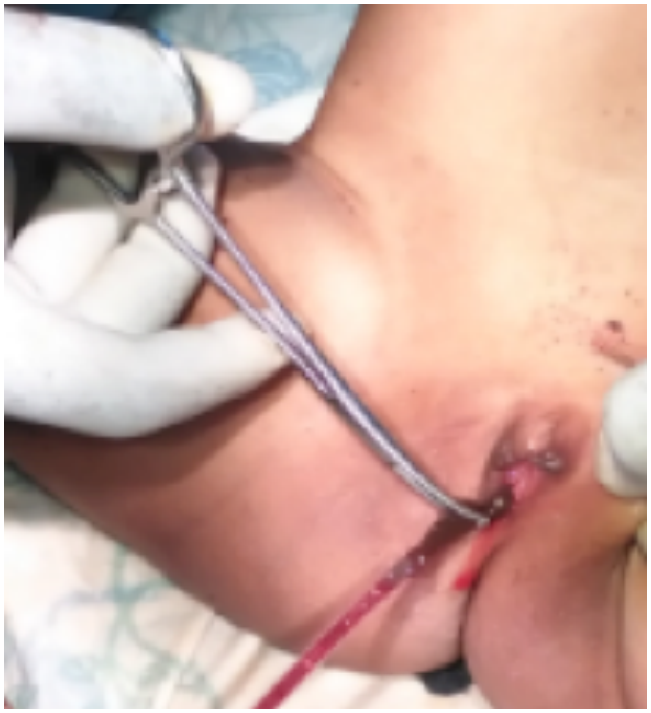

Figure 1: Leech removal using suction tube, Jimma University Hospital Medical Center

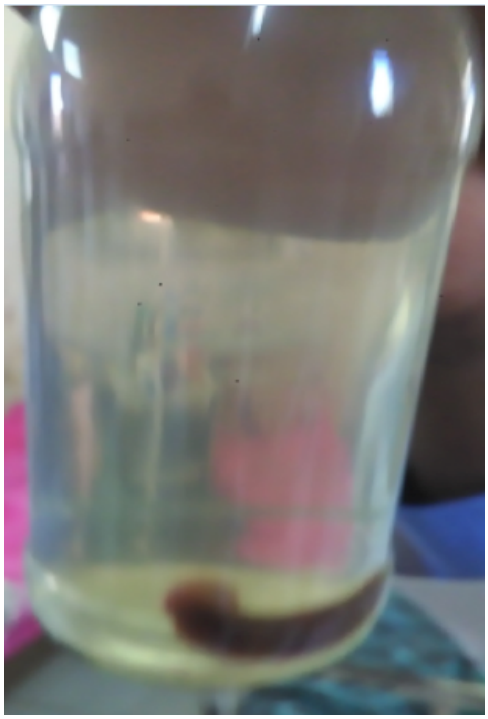

Figure3: Removed leech in bottle containing water, 2 days after removal, at Jimma university medical center.

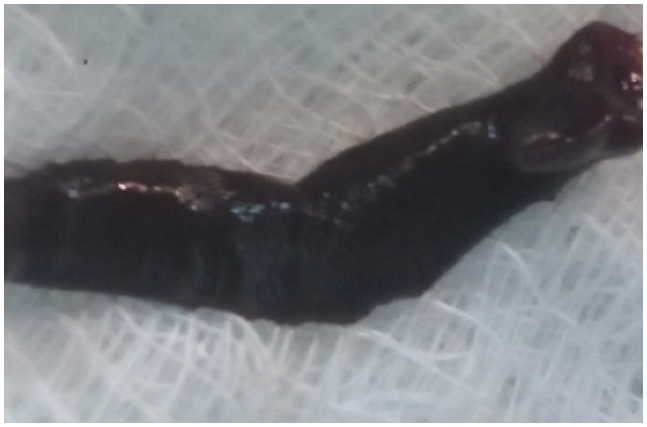

Figure 2: Leech removed from vagina of 3 years old female

DISCUSSION

People who are living in rural areas use river and standing water for drinking, bathing and/or douching. This predisposes them for leech infestation which can be prevented by improving safe water access [1,2,3,4].

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. Bites may become infected or ulcerated [1,2,3]. After the leeches drop off, bleeding may continue as the result of the action of hirudin. Even though a leech sucks a few milliliters of blood before it detaches itself from the host, the bite wound may continuously bleed for the next 10 hours to 7 days due to the presence of an anti-coagulant substance, hirudin, in its saliva, which is a potent inhibitor for thrombin. Normally thrombin activates the conversion of fibrin from fibrinogen and promotes platelet aggregation. Hirudin therefore will reduce blood clot formation by inhibiting the action of thrombin. There are also other substances that are present in the leech saliva such as local vasodilator agent (histamine) and hyaluronidase[1]. There are many cases reported about internal attachment of leeches in different areas of human body such in pharynx, larynx, vagina, bronchi, nose and rectum [6,7,8,9].

Childhood vaginal bleeding is a serious gynecologic problem which requires rapid diagnostic and therapeutic measures. Its approach requires meticulous history and physical examinations [1,5,8]. In adult, simple speculum examination can confirm the diagnosis [2,3,4] but in childhood age with intact hymen and in health facility where nasal speculum, pederson speculum and pediatrics speculum are not available, both diagnosing and managing leech infestation in children is challenging[1,8]. In parous women, simple speculum examination without anesthesia and removal of a leech by surgical forceps from vagina is a management option [2, 3, and 4].

Our case was a very young child with intact hymen and in a family who gives high value for virginity with absence of speculum, which created a diagnosing and managing challenge. As in our case, by using history as point of entry, under ketamine anesthesia, flashing the vagina with normal saline[500ml] through a small catheter caused irritation and dislodged the parasite from attached site which helped us to diagnose presence of leech while moving in the vaginal introits in and out, but due to fast movement of leech and intact hymen, removal of a leech by surgical forceps was not possible. Once the parasite dislodged from attached site, as in our case, suction with small diameter suction tube can safely remove leech from the vagina. The other management options for leech bites are leech removal using salt, salt water, tobacco water or even vinegar. These agents will cause the leech to vomit and therefore detach. The leech should not be forcibly removed because its jaws may remain in the wound, causing continuous bleeding and infection [2, 3].

The early presentation of the patient and prompt diagnosis of the cause of the vaginal bleeding, has prevented possible life-threatening conditions from failure or delay in making the diagnosis and management; flashing the vagina with normal saline under ketamine anesthesia is helpful for diagnosing and management especially in area where pediatrics speculum is not available and avoiding the hymen is relevant. Even though removal of a leech by surgical forceps from vagina under direct vision with the help of speculum is a management option, suction with small diameter suction tube can be safely remove leech without using speculum and no injury to hymen.

ETHICAL APPROVAL

Official letter obtained from Jimma University (JU) Obstetrics/gynecology department office and Verbal and written consent was obtained from the patient's family.

CONFLICT OF INTERESTS

The authors declare that there is no conflict of interests regarding the publication of this paper.

AUTHOR CONTRIBUTIONS

DA and FA: Substantial contributions as ward consultant senior, acquisition of data, drafting the article, revising the article critically for important intellectual content and final approval of the version to be published.

HB and AS: Substantial contributions in the diagnosis, managing, to design, acquisition of data, drafting the article, revising it critically for important intellectual content, final approval of the version to be published.

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REFERENCES

1. Hans Habtai, Tadesse Teclebirhan, Berhe Hebtezghi, Jacob Mufunda. Vaginal Bleeding In 6 Years Old Young Female: Diagnostic Challenge. Journal of Eritrean Medical Association. http://www.ajol.info/index.php/jema/article/download/52122/40750
2. Temesgen Tilahun. Vaginal Leech Infestation: A Rare Cause of Hypovolumic Shock in Postmenopausal Woman. Ethiop J Health Sci. 2015; 25:377-80.
3. 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
4. Dr. Ayanew Belay. Dr. Mekonen Ayichiluhm. A Case Report: Leech as a Cause of Vaginal Bleeding in Post-Menopausal Woman: Asian Academic Research Journal of Multidisciplinary. www.asianacademicresearch.org
5. Jan Paradise, Stephen J Teach, James F Wiley. Evaluation of vaginal bleeding in children and adolescents: update21.2,Apr 6, 2012.
6. Amir Hossein Jafari Rouhi, Saman Vegari, Samad Shams Vahdati, Davod Porhosein, Ghazaleh Davarnia. Nasopharyngeal Bleeding due to Leech Bites in a 9-monthold Infant: Indian Journal of Pediatrics 2010; 77: 573-4.
7. Behçet AL, Mehmet Emin YENEN, Mustafa ALDEM□R. Rectal bleeding due to leech bite: a case report: Turkish Journal of Trauma & Emergency Surgery 2011; 17:83-86.
8. Md. Jafrul Hannan, Md. Mozammel Hoque. Leech Infestation in Children through Body Orifices: Experience in a Hospital in Bangladesh: World J Surg 2012; 36:2090–92.
9. Demeke Mekonnen. Leech Infestation: The Unusual Cause of Upper Airway Obstruction. Ethiop J Health Sci. 2013; 23:65–68.