

## Vaginal Bleeding In 6 Years Old Young Female: Diagnostic Challenge

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### Abstract

A 6 year old young girl was referred to Mendefera (Zoba Debub Referral) Hospital with vaginal bleeding of 4 days duration. She had a history of swimming in a river prior to the incident. An aquatic leech bloated with blood detached from the vagina after 100 milliliters of normal saline flushing into the vagina. The patient was discharged on the second day postremoval of the leech, on amoxicillin for 7 days and follow up. Health professionals must be aware of the possibility of leech bites in the vagina as the differential diagnosis for abnormal vaginal bleeding, especially in places where leech infestation is common, a high index of suspicion is of great help to make an early diagnosis and treatment.

Keywords: Leech bite, vaginal bleeding.

### Introduction

Vaginal bleeding as the result of a leech bite is very rare.<sup>1</sup> There are very few case reports available in the literature and more rare in pediatric age.<sup>1,2</sup> One of the first cases of vaginal bleeding following to leech bite was reported more than forty years ago.<sup>3</sup> Since then, ten other cases of young girls were reported over a six year period with a history of leech bite induced vaginal bleeding.<sup>1</sup> Six years ago, a 9 year-old girl was reported with a similar presentation.<sup>1</sup> Vaginal bleeding in young girls as a result of a leech bite has not been reported before in Eritrea.

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.<sup>1,3</sup> 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.

### Case Report

A 6 year old girl was referred to Mendefera Zonal Referral Hospital from Adi Quala Hospital with vaginal bleeding of 4 days' duration. When she presented to the hospital her general clinical condition was stable except for tachycardia (pulse rate 110/min) and mild pallor. Her hemoglobin was 10 g%. There was no history of trauma, pain; or evidence of sexual abuse. However, further questioning revealed that she had swum in a nearby river prior to the incident. She had normal growth and development for her age. There was no significant medical or surgical history. Pelvic examination revealed no evidence of external injury of

the genitalia, but on rectal examination clotted blood was pushed from the vagina and the hymen was intact, and annular.

Reviewing the history of having swum in a river prior to the symptoms, suspicion of leech bite in the vagina was considered. About 100 mls of normal saline was flushed into the vagina, carefully not to cause any trauma to the hymen. After flushing a leech protracted on its tail. Then about 3 cm leech was removed by plain forceps. The vagina was cleaned with povidone soaked gauze as there was no active bleeding from the vagina. The patient was discharged on the second day postremoval of the leech, on amoxicillin for 7 days and follow up.

### Discussion

Leeches are usually attached to the skin when the host passes by.<sup>2,3,5</sup> They can attach not only to the skin, but also in the mouth, throat, lungs, vagina, urethra and other internal organs. Vaginal bleeding due to a leech bite is rare. The morbidity associated with a leech bite is mainly due to 2 factors; mechanical obstruction of vital organs and/or bleeding, as in our case.<sup>2,5</sup>

Even though a leech sucks 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<sup>2</sup> 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. It also has the anesthetic property, causing patient to be painless during the bite. Indeed, medicinal leeches are used to treat venous congestion because of their ability to remove excess blood and temporarily increase blood flow within compromised tissue.<sup>5,6</sup>

## Diagnosis and management

Leech bite can be diagnosed on the basis of patient history and examination. In adult females where good history could be extracted and pelvic examination can be done, with plenty of differential diagnosis, diagnosis would have been easier. But our case was a very young child with intact hymen and in a family who gives high value for virginity which creates a diagnostic challenge. In parous women, simple speculum examination without anesthesia and removal of a leech by surgical forceps from vagina is a management option.<sup>2</sup> However; in our case, this was not possible, because she was too young.

The emphasis is that if a health worker has doubt as to whether vaginal bleeding in a child is due to a leech bite; the vagina can be washed with normal saline through a small catheter, because speculum examination is difficult in young children. The parasite should come out as normal saline causes irritation and dislodges the parasite from the vagina.<sup>1,2</sup> To date there is no recommendation to administer any systemic hemostatic drugs to stop bleeding, and one should not try to suture the bite site as bleeding is due to alteration of coagulation at the local site. Simple packing with betadine is enough.<sup>1,6</sup>

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. Leeches, which attach in the internal organs, such as in the vagina, are more difficult to deal with. Flushing of the vagina with normal saline solution may cause the detachment. The procedure of vaginal flushing should be done without causing hymen tear.<sup>2,6,7</sup> Another possibility is examination under anesthesia (EUA), then exploring the vagina with a nasal speculum and remove by plain forceps.

The treatment of a leech bite into the vagina only needs supportive treatment. Provided the patient's coagulation profile is normal, blood transfusion may be required in order to replace the amount of blood loss. However, an extra medical attention needs to be given in patients who develop complication of leech

bites. One of the complications is wound infection.<sup>3</sup> In this case, a wound infection should be suspected when patients start to have fever with foul smelling vaginal discharge. If this condition occurs, patients should be covered with parenteral antibiotics. Development of allergic reaction to leeches has been reported.<sup>8</sup> Patients with allergic reactions may present with red blotches of the skin, itchy rashes of whole body, swelling of the body away from the bite site, fainting attack, light headedness and dizziness. In more severe reaction, a patient may have bronchospasm, leading to acute respiratory failure. These patients need emergency treatment to secure the airway. In mild cases, the allergic reaction may be resolved by administration of antihistamines and steroids.<sup>1,2</sup>

## Conclusion

Health professionals must be aware of the possibility of leech bites in the vagina as the differential diagnosis for abnormal vaginal bleeding, especially in places where leech infestation is common, a high index of suspicion is of great help to make an early diagnosis and treatment. Care should be taken during removal of a leech with surgical forceps.

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