

Case Report: Complaint of Rape in Ethiopian Child was Changed into Leech Infestation

Addisu Andualem Ferede ^{1*}, Ayenew Yirdie ², Worku Taye Getahun ²

^{1*} Department of Midwifery, College of Health sciences, Debre Markos University, Debre Markos, Ethiopia

² Department of Obstetrics and Gynecology, Debre Markos Comprehensive Specialized Hospital, Debre Markos, Ethiopia

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ABSTRACT

Background: Leeches are blood-sucking worms with segmented bodies. Vaginal bleeding is the most common sign of leech infestation. Though leeches rarely cause vaginal bleeding in children, they impose morbidities.

Case: In this study, we report a case of vaginal leech infestation in a child with vaginal bleeding. This is the first report of a vaginal leech bite causing severe anemia in a 5-year-old child at Debre Markos Comprehensive Specialized Hospital, Ethiopia. We present a detailed history and physical examination of the case.

Conclusion: Leeches bring a medical-legal issue. A failure or delay to diagnose and manage the vaginal leech bite in children causes life-threatening conditions like severe anemia and hypovolemic shock and necessitates a blood transfusion. A detailed history and thorough physical examination are recommended for an apparently healthy child who presents with vaginal bleeding.

Introduction

Leeches are hermaphroditic, blood-sucking worms of the class Hirudinea and phylum Annelida that can be found in freshwater, saltwater, and terrestrial settings [1, 2]. The size of leeches varies, and their oval, muscular, pigmented bodies contain firm jaws, suckers on both ends, and a muscular pharynx [3]. For instance, the leech featured in one study was dark brown in color with two lateral orange lines. It was 36 mm long and 7 mm wide. It featured a large grey posterior sucker with three lobes and a little anterior sucker with three lobes [4]. In rural locations where aquatic leeches are abundant, leech infestation should be examined as a possible cause of unexplained severe anemia [5]. A leech bite as a cause of vaginal bleeding in children is very rare [6]. Research supports the need for good sanitation to reduce the occurrence of leech infestations through governmental education and infrastructure construction [7].

Case Presentation

This 5-year-old female child came with her family to Debre Markos Comprehensive Specialized Hospital on May 28, 2023, with complaint of vaginal bleeding (spotting) for the last 2 weeks. Her family is a farmer. The family's concern was that she was raped by her intimate friend. The mother said that her child was raped while they were playing in the pond near their house. For this reason, the suspected boy's father was in prison until the case was proven.

The child was visited at the primary hospital on May 18, 2023, and diagnosed with vaginal tear secondary to rape. Then she was given antibiotics as an outpatient and discharged. However, the bleeding did not stop, and that is why she came to the specialized hospital.

At presentation, her temperature was 36.90 °C, her heart rate was 102 beats per minute, her respiration was 24 breaths per minute, and her oxygen saturation was 96%. She has pale conjunctiva, and her capillary refill time was 4 seconds. Her hemoglobin was 5.2 g/dl, and severe anemia was diagnosed. Two units of blood were prepared and transfused.

Initially, pelvic examination was tried in emergency gynecology. But the child was not cooperative. The child was transferred to the operating room after written informed consent was obtained from the mother. Then she was sedated and put in a dorsolateral position. On inspection, there was intermittent vaginal bleeding that soaks her vulva. The vulva was cleaned with normal saline and iodine. On examination, the hymn was intact but oozing from the vaginal canal. The gynecologist started searching for the cause of the bleeding. He gently separated the vaginal wall. The small size of the artery forceps was used. In the virginity orifice, a black, moving worm was seen. At this time, the gynecologist recognized that it was the leech. The doctor flushed 5 ml of normal saline into the vaginal orifice for easy detachment and pooled out the leech (**Figure 1**).



Figure 1: Image showing while Leech is removed using artery forceps at Debre Markos Comprehensive Specialized Hospital, 2023.

After the leech was removed by forceps, the vaginal bleeding subsided. The estimated length of the leech was around 7cm (**Figure 2**).



Figure 2 Image showing after Leech is removed at Debre Markos Comprehensive Specialized Hospital, 2023.

After the procedure, the mother was told about the condition. At this time, she remembers that there was pool water near their house, and children from the village were playing in the water. She also reported that the water was near their house and had many parasites in addition to the one found in her child's vagina. Post-transfusion hematocrit was done, and the anemia was corrected. After ten and a half hours of observation, the child was appointed to return after 1 week and discharged with a dose of 10 ml twice per day for 1 month. The family was counseled about the signs of infection. She looked clinically well when she came to her appointment. And again, there was no bleeding or sign of infection.

Discussion

Leech-related vaginal bleeding in children who visit gynecological department is a relatively uncommon issue. Vaginal bleeding due to leech bites in children, on the other hand, was a prevalent (18.2%) concern in the tropics [8]. It's

interesting to note that human leech infestations are still a problem today. The study in Iran reported the first atypical vaginal bleeding caused by a leech bite in a virgin 14-year-old girl from a remote area [6].

Prepubescent children are challenging to examine because they have an intact hymen, a tiny vaginal opening, and unestrogenized vaginal tissue that is vulnerable to trauma [9]. Vaginal bleeding before puberty in an otherwise healthy girl could pose a problem for the doctor, especially without a complete medical history [10]. To avoid missing the source of vaginal bleeding and severe anemia caused by leech infestation, a complete physical examination and investigation should be performed [11]. In this case report, the leech was diagnosed unintentionally while searching for the source of bleeding. Lack of information about abnormal vaginal bleeding brought on by a leech bite typically results in the diagnosis being disregarded [12]. The same is true in our case since the diagnosis of a leech infestation

was overlooked during the initial admission at the primary hospital, resulting in a need for re-admission to the comprehensive specialized hospital. This led to severe anemia and blood transfusion.

Morbidity from a leech bite is caused mostly by two factors: mechanical obstruction of a vital organ and/or excessive bleeding [13]. A girl with a vaginal leech infestation might have life-threatening hypovolemic shock as a result of ongoing vaginal bleeding [14]. Premenarchal bleeding caused by a leech bite is a huge gynecological and medico legal issue since it is an often-overlooked differential diagnosis in the management of vaginal bleeding in clients with undiscovered leech bites [15]. In our case, the father of the suspected boy was released from jail after the diagnosis was confirmed by the doctor. This causes social disintegration and quarrelling among people.

The management modality for leech bites is either facilitating the treatment at admission to prevent complications or removal of the leech itself by artery forceps [16]. Depending on the clinical condition and hemoglobin level, patients could be given intravenous crystalloids, blood transfusions, or iron foliate [17]. Normal saline was the safest and most widely used fluid in the leech bite site [9, 18], but lidocaine was also applied to the body of the leech to make it paralyzed and relaxed if it was completely stuck to the vaginal mucosa [19].

Conclusion

Even though prepubertal vaginal bleeding is uncommon, it can pose a conundrum for both clinicians and parents. When dealing with young girls who appear to have vaginal bleeding and no history of trauma, leech infestation should

be taken into account as a differential diagnosis. A careful history and physical examination should be taken to diagnose the leech bite in the vagina. The health professionals should keep in mind the leech infestation and alert themselves when the child presents with vaginal bleeding. Awareness creation is recommended for parents living near contaminated pool or river water. Safe removal of the leech is paramount to preventing additional damage to the tissue.

Ethical consideration

An official letter is obtained from Debre Markos Comprehensive Specialized Hospital. Written informed consent was taken from the parents.

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Authors' contribution

AY and WT take history and perform physical examination. AY performed the procedure and WT assisted him. AA conceived and designed the study. AA also wrote the paper and prepared the first draft. All the authors assured the manuscript for publication.

Availability of data and materials

All the required information is in the paper.

Consent for publication

Not applicable

Disclosure

The authors declare that we have no competing interest.

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