Leech in the peritoneal cavity: An unusual cause of intestinal obstruction

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Abstract
A 3 years old girl admitted in the paediatric surgery department of Sylhet Medical College Hospital with the complaints of persistent pain in whole abdomen associated with fever, vomiting and constipation for 3 days. Patient's mother gave a history of bleeding per vagina and suspected leech bite 5 days back, but she was confused whether leech entered inside the vagina or not. Clinically it was a case of acute intestinal obstruction. Plain radiography and ultrasonography of whole abdomen revealed intestinal obstruction. Emergency laparotomy was done and a dead leech measuring 3 inches in length in stretched condition was found in the left iliac fossa which was attached from the mid ileum to the descending colon causing band effect. No perforation or gangrene was found in the intestine or any collection in the peritoneal cavity. No other port of entry could be detected on external or internal surface. Post operative recovery was uneventful. The patient was discharged from the hospital on the 10th post operative day. Route of entry of a leech into the peritoneal cavity through genital tract is a rarity and presentation as acute intestinal obstruction yet not reported.

Key words
Leech bite, peritoneal cavity, Intestinal obstruction.

Introduction
The common causes of acute intestinal obstruction in children are:
- Intussusception
- Tuberculosis
- Trauma
- Tumour

The specific symptoms of acute abdomen always may not be expressed by children properly. Leech bite is common in the rural areas of Bangladesh in rainy season (Ashar & Srabon). Leech bite is commonly found in the external body surfaces. Leech bite in nose, pharynx, larynx, oesophagus, genitalia, urethra and rectum are also reported1. Vaginal bleeding in children as the result of a leech bite is very rare and there are only three case reports available in the Medline Indexed literature2. The entry of a leech into the peritoneal cavity through the genital tract is a rare incident and acute intestinal obstruction caused by leech is still not reported.

Case report
A 3 years-old girl hailing from Nobigonj, Hobigonj was admitted in paediatric word with a history of persistent abdominal pain, vomiting & constipation for 3 days. She first went to the nearest primary health care centre from where she was referred to the paediatric surgery department of SOMCH after 72 hours.

The patient's mother gave the history of vaginal bleeding following a bath in a pond and a suspected leech bite 5 days back as it was common in their area. There was neither history of trauma nor was there any evidence of abuse.
At the time of admission in paediatric ward, there was no active bleeding from vagina or any foreign body within it. Her physical examination was carried out & the clinical diagnosis was acute intestinal obstruction.

Routine blood examination (Hb%=10.5 gm/dl), serum electrolytes, urine R/M/E & CXR were normal. Diagnosis of acute intestinal obstruction was made by plain radiography of abdomen in erect posture and ultrasonography of whole abdomen.

Laparotomy was done under general endotracheal anaesthesia through a supraumbilical transverse incision on the 6th day of incident.

There was no haemorrhagic fluid or exudate found in the peritoneal cavity but the small gut was distended and a band like structure was found between a loop of ileum & the descending colon.

Later the band was identified as a dead leech about 3 inches in length, which was attached by its two ends. The sites of the gut where leech was attached were red in appearance and oedematous but there was no ulceration or perforation.

No other port of entry of the leech was found on external or internal surfaces of the abdomen. Abdomen was closed in layers without keeping any drain.

Naked eye examination confirmed the band like structure as a leech which was about 3 inches in length and was preserved in a formalin containing bottle.

The postoperative recovery was uneventful and the patient was discharged on 10th POD. There was no complaint when she came back for follow up after 2 weeks of discharge.

Discussion
Leeches are invertebrates of Phylum Annelida and class Hirudinea. A leech is usually about 12.5-15.25 cm long.

Leeches are classified according to the different ways they feed such as:
- Jawed leeches or Gnatobdellida
- Jawless leeches or Rhyncobdellida
- Worm leeches or Pharyngobdellida

Leeches can be classified according to their habitat:
- Freshwater leeches
- Terrestrial leeches
- Marine leeches

Figure 2: Plain X-ray showing features of intestinal obstruction

Figure 3: Per operative appearance of the gut where leech was attached

Figure 4: Dead leech 3 inches in length
The bodies of all leeches are divided into the same number of segments (34), with a powerful clinging sucker at each end: front sucker & rear sucker. Leeches usually have three jaws and make a Y-shaped incision. The Australian land leeches have only two jaws and makes a V-shaped incision.

The prolonged bleeding after a leech bite is due to the action of factors in the leech saliva left in the bite, which include:
- Histamine-like vasodilator.
- Hirudin (a potent antithrombin).
- Hyaluronidase.
- Calin (a platelet aggregation inhibitor).

Bleeding from a leech bite wound can persist for a mean of 10 hours and as long as 7 days. All leech species are carnivorous. Some are predatory, feeding on a variety of invertebrates such as worms, snails, insect larvae, crustaceans, while a very few are haemophagic parasitic blood-sucking leeches, feeding on blood of vertebrates such as amphibians, waterfowl, fish & mammals.

Given the opportunity they will also feed on human blood. The most important predators on leeches are fish, aquatic insects, crayfish and other leeches specialized for predation on leeches.

Haemophagic leeches attach to their hosts and remain there until they become full at which point they fall off to digest.

When a jawed leech bites it holds the sucker in place by making its body rigid. Using its semicircular and many toothed jaws like minute saws, it then makes an incision in the skin and excretes a mucous. This helps the sucker to adhere and anaesthetize the host. A salivary secretion containing the anti-coagulant and histamine floods the wound and the leech relaxes its body to allow the blood to be ingested. This mixture allows the blood to flow and prevents clotting once inside the leech.

**Conclusion**

Entrance of a leech into the peritoneal cavity through a female genital tract of a young girl is possible specially when bathing in a pond or a river. A leech in the peritoneal cavity can be attached to the adjacent loops of intestine and may cause acute intestinal obstruction. Leech infestation is common in rural areas of Bangladesh especially in the rainy season and the children getting substandard sanitary facilities are at high risk for leech bites in the genital regions; a high index of suspicion is of great help to make an early diagnosis and ensure prompt treatment.

**References**

2) Medscape general medicine. 2005;7(4) @2005 Medscape.