

Leech infestation causing haematuria

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SUMMARY

Leech infestation in the urinary bladder is a rare cause of haematuria and acute lower abdominal pain. In this case report, we discuss a 63-years old Malay man who presented with acute urinary retention for 1 day associated with lower abdominal pain. Subsequently, upon insertion of urinary catheter in the emergency department frank haematuria was noted. Images showed tubular structures within the urinary bladder. Based on strong clinical suspicion, cystoscopy was done, and diagnosis was confirmed.

INTRODUCTION

In Malaysia, leech is a common occurrence in paddy fields, agriculture and fishing industries. Leech - of the subclass Hirudinea, phylum Annelida has about 650 species of segmented worms. They are characterised by a small sucker which contains the mouth at the anterior end, and a large sucker at the posterior end.¹ They can range from a minute size to 20 cm in length and are known to grow to three times their size. These leeches are usually found in fresh water and land.¹

There have been many cases of leech bites and leech infestations in Asia, Africa and the Mediterranean.³ These leeches can also enter human orifices such as vagina, urethra, rectum and eyes causing bleeding in these areas.³ The bleeding is due to the secretion of hirudin, an anticoagulant by the leech.²

Salt, vinegar and alcohol can be used to remove external leeches. Leeches in the urinary bladder can be removed via cystoscopy, suprapubic approach or hypertonic saline irrigation.^{2,4} However, studies have shown that removal by cystoscopy is the preferred approach as it is quick with less bleeding and discomfort to the patient.⁴

CASE PRESENTATION

A 63-years-old Malay fisherman presented with acute urinary retention for one day associated with lower abdominal pain. Prior to this presentation, the patient gives a history of having a leech bite him at the penile meatus while setting up his fishing net early in the morning. He managed to remove that leech and throw it away. However, he was unable to confirm if any other leech went into the meatus.

On presentation to the Emergency Department (ED), Foley's catheter was inserted, and frank haematuria noted. Initial bedside ultrasound in the ED showed moving tubular structures within the urinary bladder with blood clots (Figure 1).

Formal ultrasound in the Radiology Department revealed a large blood clot. We followed through with a CT urogram which showed a hyperdense elongated tubular structure at the anterosuperior aspect of the urinary bladder and a haematoma (Figures 2).

Since admission to ED, the patient had continuous haematuria leading to a drop in haemoglobin levels and low blood pressure due to volume loss. His haemoglobin level was between 9 and 10g/dL, and blood pressure reading was between 80 and 90/48-57 mmHg. Initial treatment given in Hospital Seri Manjung included bladder irrigation, fluid resuscitation and packed cell transfusion.

Case was discussed with the urologist from tertiary hospital. In view of copious amount of haematuria and blood clots within the urinary bladder, further 4-phase Renal computed tomography (CT) was ordered by Urology to rule out the possibility of transitional cell carcinoma. The 4-phase renal CT revealed an increasing size of haematoma with a persistent non-enhancing elongated tubular hyperdense structure within the urinary bladder.

The case was transferred to the Urology Department in tertiary hospital for further management. A cysto-endoscopy and clot evacuation and cysto-diathermy were done. Intraoperatively noted blood clots and a leech. The leech measured 16 cm in length (Figure 3). Multiple bite marks were seen in the bladder wall. The leech was removed using forceps, and clot evacuation was done.

Post-procedure, the patient was admitted to ICU for postoperative urosepsis requiring ionotrope support. Patient showed good recovery with good urine output and clear urine postoperatively. Foley's catheter was removed on day 5 of surgery, after which the patient was able to pass urine on his own.

DISCUSSION

As simple as it may sound, leech infestations can be quite detrimental and life-threatening. Leech infestation within the urinary bladder can cause haematuria leading to blood loss and severe anaemia requiring packed cell and fresh frozen plasma replacement.^{4,5} Leech bite can cause prolonged haemorrhage due to presence of histamine like vasodilators in the leech saliva, hirudin (a potent antithrombin), hyaluronidase, and calin (a platelet aggregation inhibitor). Besides that, people are usually unaware of the leech bite as it is painless due to the existence of local anaesthetics secreted by the leech.^{4,5}

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Fig. 1: Ultrasound images tubular structure within the urinary bladder likely of leech

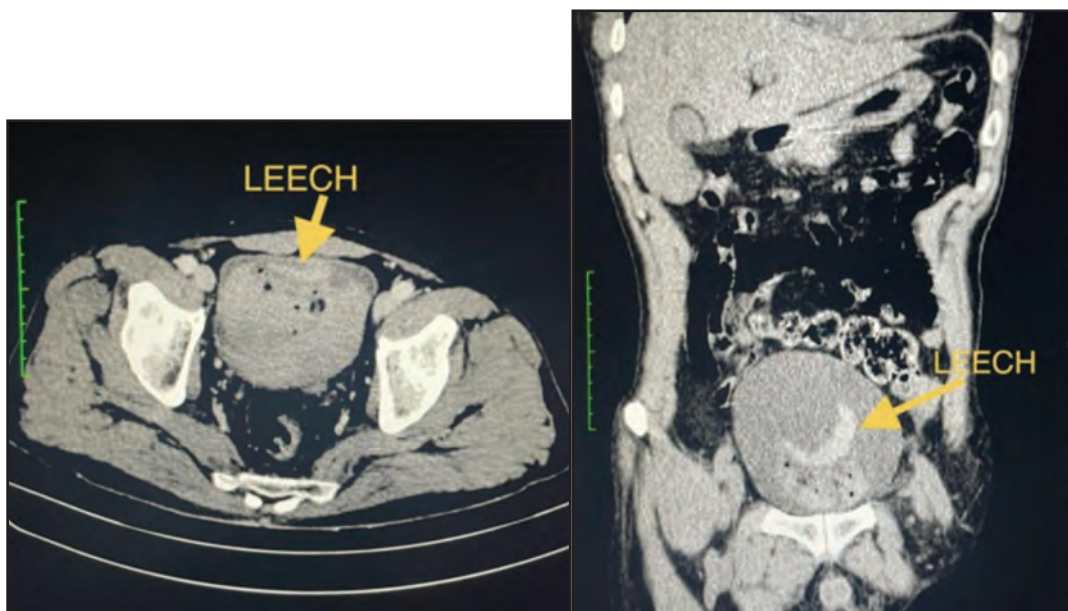


Fig. 2: CT images. Axial and coronal images from contrasted CT abdomen show tubular structures within the urinary bladder with blood clots suggestive of leech

Other sites of infestation include rectum. A case report of acute severe gastrointestinal bleeding following leech infestation highlights complications of leech infestation into the rectum requiring colonoscopy and endotherapy to arrest the bleeding.⁶ A single case report of excessive intractable haemorrhage resulting from multiple leech bites which caused disseminated intravascular coagulation required fresh frozen plasma and erythrocyte suspension replacement.⁵

Few reported cases of nasal leech infestation presented with unilateral epistaxis and airway obstruction. These cases were treated with 10% lidocaine nasal spray and the leech subsequently removed via nasal endoscopy.^{7,8}

Ocular leech infestation can present with subconjunctival haemorrhage. The leech was found over the bulbar conjunctiva near the limbus. These patients usually present with foreign body sensations. Treatment includes 4% xylocaine and 2% pilocarpine drops which results in the leech releasing its suction and dropping off.⁹

Other complications that can arise are remnant foreign bodies (suckers of the leech) embedded in the tissues at the bite site¹⁰ which requires surgical removal. These retained foreign bodies can be a source of continuous bleeding or infection.



Fig. 3: Leech is removed via cystoscopy

This case is interesting since the main presenting complaint was unable to micturate and lower abdominal pain rather than haematuria. Leech infestation was later diagnosed correlating clinical and imaging findings. This patient experienced a large amount of blood loss requiring packed cell replacement. The leech was finally removed via cystoscopy. The patient made a full recovery with no obvious chronic complications at the time of writing.

Given the typical demography, the patient being a fisherman in a rural region, and clinical findings of haematuria with volume loss, and blood clots and foreign body within the urinary bladder; a leech infestation needs to be the main consideration. Early referral to tertiary centre and swift treatment are of utmost necessity to ensure patient survival. This patient successfully made a full recovery with no obvious chronic complications at the time of writing.

CONCLUSION

Leech infestation is a common occurrence in rural areas, though uncommon in cities. Haematuria is the most common presentation, however other presentations like urinary retention, as with this case, and a strong clinical history warrant a high index of suspicion. Adequate imaging and prompt treatment is needed for proper patient management.

CONFLICT OF INTEREST

There is no conflict of interest.

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