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Ascaris in an intercostal drainage tube

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Abstract:

Ascaris or roundworms are the most common intestinal nematode infecting man with high disease prevalence in developing countries. Besides migrating to respiratory systems of the body as an integral part of its life cycle, adult *Ascaris* has been associated with occasional case reports of erratic migration from abnormal sites. In this case report, we present the isolation of this worm from the proximal portion of the intercostal drainage tube in a traumatised young male patient. Such cases remind us about the ubiquity of the worm and persistence in unfavourable host conditions.

Keywords:

Complications, ectopic, larva, stool, trauma

Introduction

In tropical countries like India, where the burden of intestinal nematodes is very high, ascariasis occupies a prominent position. There have been myriad reports of unusual presentations of this parasite and isolation from ectopic sites.^[1-5] At the same time, there have been reports of erratic ascariasis, especially in traumatised patients with a prolonged hospital stay.^[6] In the majority of these cases, there have been certain pathological conditions in association with the worm. However, in this report, we present incidental finding of an adult *Ascaris* in intercostal drainage (ICD) tube of a traumatised patient without any symptom of organ involvement due to the parasite.

Case Report

Following a road traffic accident, an 18-year-old male patient was admitted to the Intensive Care Unit of Trauma centre of a tertiary care hospital in Varanasi, with a head injury and fracture of the right tibia. The patient was immediately resuscitated and intubated. Supportive measures with analgesics and antibiotics were provided, and the patient was stabilised. No other

injury was evident at the time of admission, and the patient had no significant past medical history. Gradually, the patient recovered over a month's time. However, on attempting extubation, he developed breathlessness and features suggestive of a right-sided pneumothorax, confirmed by X-ray. No other anomaly was detected, and an ICD tube was positioned on the right side. After recovery from the symptoms, on the removal of the ICD tube, about 30–40 cm long blood-stained whitish worm-like structure was seen hanging loosely from the proximal end of the tube. The worm was extracted in toto and sent to the parasitology section of the Microbiology department for identification.

Routine investigations of the patient were normal. Serial blood examination did not reveal eosinophilia. Repeated stool examination did not reveal any ova or cyst of parasites.

In the parasitology section, the bloodstained worm-like structure was thoroughly washed with normal saline. It was a 42 cm dead parasite without muscle tonicity and blunt ends [Figure 1a]. The structure, length and site of isolation of the worm suggested a preliminary identification of the worm as *Ascaris*. Further, histological sections of the parasite were studied for confirmation. Thick

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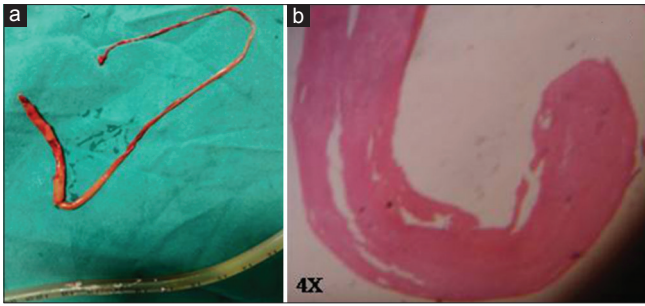


Figure 1: Extracted *Ascaris* from the intercostal drainage tube and its curved end. (a) The entire length of the extracted worm. (b) HE stained longitudinal of the worm with curved end and thick musculature

muscular wall and curved end of the parasite suggested the worm as male *Ascaris* [Figure 1b].

Anthelmintic therapy with Albendazole (400 mg) was administered to the patient and he was finally discharged following 45 days of hospital stay.

Discussion

The asymptomatic nature of infestation by *Ascaris lumbricoides* makes it a global health problem.^[7] Migration from its normal habitat can be seen both in larval as well as adult forms.^[1] Larval migration which is a normal step in the life cycle of the parasite often causes self-limiting Loeffler's syndrome with transient respiratory manifestations. However, certain factors such as prolonged horizontal posture, relaxed lower esophageal sphincter (LES), decreased gastric acidity, anaesthetic drugs have been implicated responsible for migration of adult worms.^[6] There have been reports of migration of adult *Ascaris* following anaesthesia.^[1] Excretion of the worm through ICD tube and the tracheal tube has been reported.^[2,3] However, in the majority of these cases marked eosinophilia has been one of the most striking features which provided clinical suspicion of worm infestations.^[1,4] This feature was lacking in our case which was perhaps due to the absence of any active infection due to the parasite in our patient as against the others. In congruence with this case, most of the other cases did not reveal any relevant finding in stool despite the presence of live worms in the body.^[3-5] Although it is often concluded that routine stool examination should be performed urgently in trauma patients from less developed countries to prevent fatal complications of ascariasis,^[6] negative findings in stool often misjudge the true situation. In this case, the presence of the worm in a patient was truly incidental without eosinophilia or any ova in stool along with the absence of any manifestation of past infections or any obvious pathological lesion. In addition, as against others,^[6,8] there was no evidence of any traumatic injury to the thorax which could have facilitated the entry of the worm into the drainage tube. As a result, we could not ascertain the role of the parasite in this patient or any implacable damage caused by it.

It is worth mentioning that ascariasis has been reported in the global literature to be especially associated with trauma patients thus causing life-threatening complications. A recent review on such aspect has mentioned that such complications are usually limited to the respiratory and gastrointestinal systems of the patients in line with the natural life cycle of the parasite.^[6] However, these worms also possess the capacity to migrate to various ectopic sites based on unfavorable conditions.

Due to the high burden of the disease in our country and importance of ascariasis as one of the neglected tropical diseases, there should be strong clinical suspicion of this parasite in chronically debilitated traumatised patients. However, increased reports of isolation of *Ascaris* from ectopic sites simply suggest their erratic migration and their adaptations to fight adverse host conditions.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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