

Massive hepatobiliary ascariasis at autopsy

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DESCRIPTION

A 58-year-old man suddenly lost consciousness at home and was immediately brought to the emergency department where he was declared dead. The deceased was suffering from schizophrenia and had reported upper abdominal pain for past few months. His sister stated that he was living alone under unhygienic conditions and had significant weight loss over the past 2 months.

At autopsy, six adult *Ascaris* worms were found infiltrating into the liver parenchyma through the common bile and hepatic duct (figure 1A). No adult *Ascaris* worm was found inside the cystic duct or gall bladder. About 50 mL of light green bile was present in the gallbladder, which suggested obstruction of the biliary channel at the level of the common bile duct (figure 1B). The liver showed marked dilation of the biliary channels with presence of an intraluminal adult worm (figure 1C, D). The weight of the liver was 1200 g.

Histopathology of organs: Microscopic examination of the liver revealed ulceration of biliary mucosa with presence of larvae of *Ascaris* (black arrow), and acute and chronic inflammatory infiltrate in the subepithelial tissue (figure 2A, B). There was fibrosis in the biliary wall. Dilated biliary ducts showed the presence of a gravid *Ascaris* worm (figure 2C).

Ascariasis causing *Ascaris lumbricoides* is the largest intestinal nematode parasite known to be present in man.¹ The adult worm usually lives in the lumen of the small intestine. Migration of one or two worms to the hepatobiliary duct and liver parenchyma causing hepatobiliary ascariasis is a well-known complication.² In our case, there was massive hepatobiliary infestation of worms, which is rarely reported in the scientific literature. Hepatobiliary ascariasis is the most feared complication and can cause morbidity and mortality.³ Worm infestation might not be the cause of death in this patient, as parasitosis is common in tropical countries.

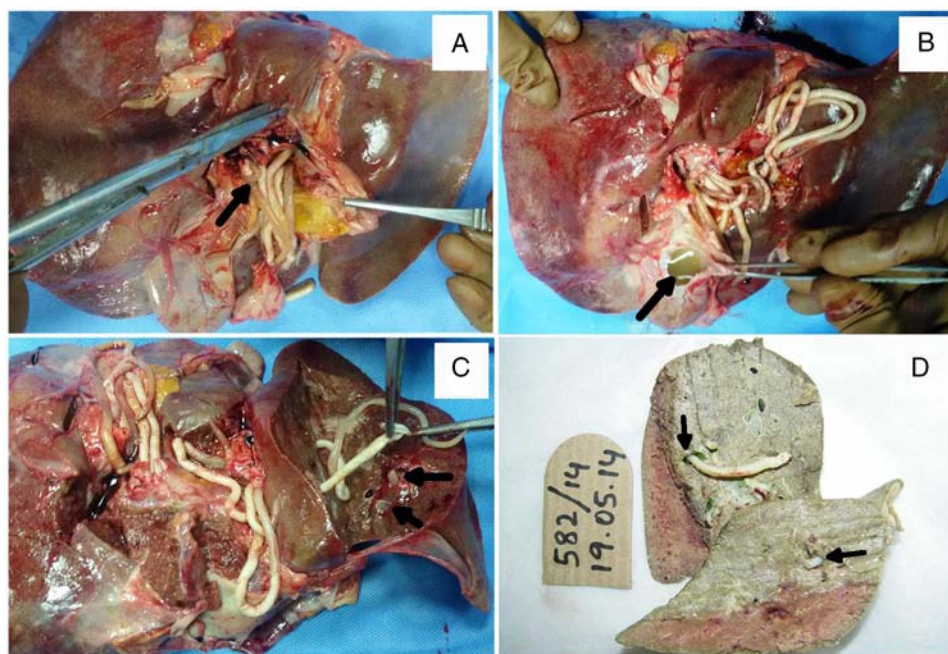


Figure 1 (A) A bunch of adult *Ascaris* infiltrated into the liver through common bile duct (CBD) and hepatic duct. (B) Light green colour of bile in the gallbladder suggests obstruction at the level of CBD. (C and D) Many intraluminal adult worms are present in the dilated biliary channels of the liver.



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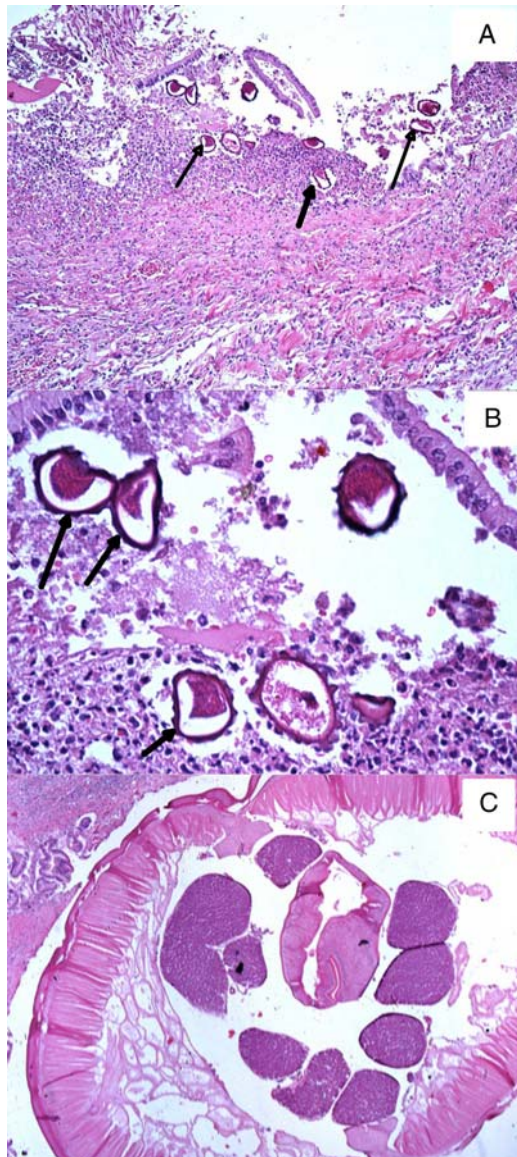


Figure 2 (A and B) H&E stained sections of the liver show ulceration of biliary mucosa with presence of many larvae of *Ascaris* (black arrows) and mixed inflammatory infiltrate in the subepithelial tissue ((A), $\times 100$; (B), $\times 200$). (C) A gravid *Ascaris* is present in the dilated biliary duct ((C), $\times 40$).

Learning points

- Hepatobiliary ascariasis is an uncommon complication of *Ascaris* infestation.
- Hepatobiliary ascariasis may cause serious complications leading to death.
- Massive hepatobiliary ascariasis with characteristic autopsy findings is rarely reported in the scientific literature.

Contributors CB conceived of the article. The autopsy was conducted by RS. ARM reported the histopathology. All authors were involved in the preparation of the manuscript. CB, SKG and RS edited and coordinated the writing of the manuscript. CB double checked the manuscript. All authors read and approved the final manuscript for publication.

Competing interests None declared.

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