Case Report

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Hepatobiliary ascariasis

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ABSTRACT

Ascaris lumbricoides is one of the commonest parasite seen in the developing world. A multitude of complications can be caused by this parasite. Hepatobiliary ascariasis (HBA) can be very deceptive in its presentation. A high index of suspicion is therefore necessary to diagnose biliary infestation presenting as jaundice. A case of obstructive jaundice due to biliary ascariasis is presented to highlight this deceptive cause for jaundice.

Keywords: Ascaris lumbricoides, Biliary hepatic jaundice

INTRODUCTION

Ascaris lumbricoides is one of the commonest parasitic infestation seen in tropical countries next only to amoebiasis. The parasite has predilection for the jejunum. However the parasite can make its way to the extrahepatic biliary passages giving rise to a multitude of symptoms. A case of biliary ascariasis presenting as obstructive jaundice is presented along with a brief review of literature.

CASE REPORT

A 32 year old female patient presented with upper abdominal pain, vomiting and jaundice. Patient gave history of passage of round worms in the stools 3 months back for which she took treatment from a local doctor. She also gave history of vomiting of round worms 1 week prior to presentation. She gave history of jaundice which deepened over period of 4 days.

Pain was upper abdominal, colicky in nature and associated with 2 bouts of vomiting. Patient was referred to our surgical unit. Physical examination revealed icterus. All vitals were normal. Few scratch marks were

visible on the upper extremity and upper abdomen. CBC revealed mild neutrophilic leucocytosis. The eosinophil count was 13.

Liver function tests revealed a total bilirubin of 4.4mgm% with a direct component of 3.7 mgm%. Alkaline phosphatase was 200 IU. However the SGOT/SGPT was normal.



Figure 1: USG showing the roundworm and calculus in the CBD.

Stool examination revealed ova of ascaris lumbricoides and cyst of *E. histolytica*. AXR did not reveal any air fluid levels. USG abdomen revealed a tubular structure passing through ampulla of Vater into the CBD suggestive of a round worm. It also revealed a solitary calculus in the CBD (Figure 1). Patient underwent ERCP. A round worm was seen in duodenum lying across ampulla of Vater (Figure 2).

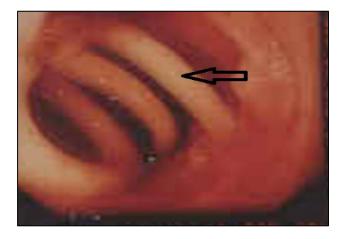


Figure 2: Endoscopic view of the roundworm in the duodenum.

The round worm was extracted, a sphinterotomy performed and gall stone in the CBD removed. Patient recovered within 4 days. Repeat LFT revealed normal bilirubin levels. Patient was commenced on anthelminthic treatment and discharged on the fifth day after confirming normal bilirubin levels.

DISCUSSION

Ascaris Lumbricoides has a natural inclination to migrate and seek small orifices. Heavy worm infestation or other intestinal infections of viral, bacterial or parasitic origin can led to altered gut motility predisposing to migration of these worms into biliary tree. The parasite reaches the duodenum and enters the ampulla of Vater through which it may either enter the CBD, hepatic or pancreatic duct. (Hepatobiliary ascariasis HBA). It can also lodge in the cystic duct and gall bladder.² The disease has a female preponderance. Certain factors seem to predispose to HBA. These include previous biliary tract surgery, pregnant women owing to hormonal effects on the ampulla pregnancy during and disturbances of environment by virtue of fever.

Symptoms depend upon site of lodgment of the worm. Biliary colic, right hypochondriac pain and cholangitis are typical features. High grade fever with chills, tender hepatomegaly with mild jaundice are commonly encountered. If the worm enters the gall bladder, it can cause acute cholecystitis. Hepatic abscesses are seen in immunocompromised hosts.

Diagnosis of HBA poses an enigma to the attending surgeon. High index of suspicion based on history is a very important determinant. History of worm infestation associated with symptoms related to the biliary tract system should strongly raise the suspicion of HBA.⁴ USG is highly sensitive and specific.^{5,6} Visualising the worm and ascertaining its motility is diagnostic. In a few cases the worm may not exhibit any change of position which is highly suggestive of a dead and macerated worm.

However many a times a worm in the duodenum could be missed in significant number of cases.^{5,6} ERCP is diagnostic.⁶ Linear smooth filling defects with or without characteristic movements but without distal acoustic shadowing may be seen as parallel fillings typically described as "railway tract sign". Worms in the gall bladder may be seen as long tubular coiled echogenic structures with distinct motility on USG.^{7,8}

CT findings may be equivocal. Peripheral eosinophilia is present in majority of patients. Stones may be a common accompaniment of biliary ascariasis. Such patients may present with recurrent pyogenic cholangitis. Recurrent biliary sepsis is due to papillitis and sphincter of oddi motor dysfunction which is probably caused by mechanical injury of the papilla due to the worm. This also predisposes to ascending biliary infections. A dead carcass of worm or eggs predispose to stone formation.

Hospitalization is necessary for all these patients. Having established the diagnosis, treatment should be commenced immediately. Aggressive supportive care for cholangitis is lifesaving. Oral anthelmintics have to be commenced once diagnosis is confirmed. Failure of response to treatment or jaundice in cases of HBA necessitates endoscopic intervention. ERCP is both diagnostic and therapeutic. It enables retrieval of the worm from the CBD.

It also enables removal of intrahepatic and extrahepatic biliary calculi which may be a chronic association of HBA. ^{10,11} Open surgery is indicated only in those cases where endoscopic intervention fails to completely remove the worm especially where the worm load is extremely high. ¹²

CONCLUSION

Diagnosis of HBA necessitates a high index of clinical suspicion, USG can be an effective diagnostic tool and endoscopic intervention is easy, fast and therapeutic.

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