Hepato-Pankreatiko-Biliyer Komplikasyonların Nadir Bir Nedeni Olarak Ascaris Lumbricoides: İki Vakanın Sunumu ve Kısa Bir Literatür Değerlendirmesi

Ascaris Lumbricoides as a Rare Cause of Hepato-Pancreatico-Biliary Complications: Report of Two Cases and a Brief Review of the Literature

Ascaris Lumbricoides'in Hepatobiliyer Komplikasyonları / Hepatobiliary Complications of Ascaris Lumbricoides

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Özet

Askaris, hastalığın intestinal fazında özgül olmayan değişik abdominal belirtilere neden olabilen gastrointestinal sistemin en sık karşılaşılan parazitik enfestasyonlarından biridir. Bu fazda yetişkin kurtlar klinik olarak sessiz kalmaktadır. Ancak bir kurt yumağı intestinal obstrüksiyon, volvulus ya da hatta perforasyona neden olabilmektedir. Askaris enfestasyonlarında biliyer kolik, safra taşı formasyonu, kolesistit, piyojenik kolanjit, karaciğer apsesi ve pankreatit gibi sayısız hepatobiliyer ve pankreatik komplikasyonlar da nadiren görülebilir. Bu komplikasyonlar parazitin ampulla Vater'i geçerek safra kanalına migrasyonu sonrası ortaya çıkmaktadır. Gerçek zamanlı ultrasonografi paraziti gösterebilir yöntemlerden birisidir. Medikal tedavinin başarısız kaldığı bazı vakalarda hepatobiliyer ve pankreatik komplikasyonların üstesinden gelebilmek için cerrahi gerekli olabilmektedir.

Anahtar Kelimeler

Hepatobiliyer, Pankreatik, Komplikasyon, Askaris, Parazit, Eozinofili

Abstract

Ascaris is one of the most common parasitic infestations of the gastrointestinal tract which causes a variety of non-specific abdominal symptoms during the intestinal phase of the disease. In this phase the adult worms usually remain clinically silent. However, a bolus worms may result with intestinal obstruction, volvulus or even perforation. Also, several hepatobiliary and pancreatic complications such as biliary colic, gallstone formation, cholecystitis, pyogenic cholangitis, liver abscess and pancreatitis may occur occasionally. These complications results when the adult worm may migrate into the Vater's ampulla and enter the bile tree. Real time ultrasonography may demonstrate the worm. Surgical intervention may be necessary for some case when medical treatment fails to overcome the hepatobiliary and pancreatic complications.

Keywords

Hepatobiliary, Pancreatic, Complication, Ascaris, Parasite, Eosinophilia

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Introduction

Ascaris infestation of the gastrointestinal tract is a common problem worldwide especially in the endemic regions [1, 2]. The worm is generally clinically silent with non-specific abdominal symptoms, but sometimes a huge worm bolus may obstruct the gastrointestinal tract and even cause perforation or a worm may migrate to the Vater's ampulla and enter into the biliary tree to cause several gastrointestinal, hepatobiliary and pancreatic complications [2, 3]. Gastrointestinal tract blockage and migration of the parasite through the small intestine, through the stomach and out the patient's nose or mouth are the well known clinical problems with Ascaris lumbricoides [4]. The most common infection of the hepatobiliary system and of the pancreas is the infestation with Ascaris lumbricoides[5, 6]. Hepatobiliary ascariasis may present as recurrent biliary colic, acalculous cholecystitis, pyogenic cholangitis, pancreatitis or hepatic abscess [7]. Although, ultrasonography is a highly sensitive and specific method for the detection of the disease with a lower cost, some patients may require further interventional and costly endoscopic retrograde pancreaticography (ERCP) to decompress and relieve the biliary tree. [8 - 10]. Computed tomography (CT), magnetic resonance imaging (MRI) and even angiography may be used in selected cases [3]. Endoscopic extraction of the worm may also be possible with the same technique [6, 11]. Pyrantel pamoate, mebendazole, albendazole and levamisole are effective drugs and can be used for mass therapy to control ascariasis in endemic areas [12, 13]. However, some serious hepatobiliary and pancreatic complications still merit prompt endoscopic, laparoscopic or surgical intervention. Two cases ours with hepatobiliary and pancreatic complications are presented herein.

Case report

Case 1

A man in his 53 years old of age with recurrent right upper pain, intermittent elevations of transaminases and alkaline phosphatase were recognized to have spontaneous movements of a worm-like feature in the gallbladder lumen during routine hepatobiliary ultrasonography. Also, elevation in eosinophil counts was revealed from the laboratory examinations. He was taken on per oral albendazole treatment. The definitive treatment was laparoscopic cholecystectomy (LC). His postoperative course was uneventful. A necrotic sludge was noted when the gallbladder was opened. Chronic cholecystitis with eosinophilic infiltration was reported after histological evaluation of the gallbladder.

Case 2

A man in his 68 years old of age with undiagnosed chronic liver disease was referred to surgical clinic with acute right upper abdomen pain, chills and fever. In his history recurrent right upper quadrant pain, intermittent itching and untreated scolex vomiting were noted. White blood cell counts, liver transaminases and pancreatic lipase levels were elevated. Real time ultrasonography has demonstrated hydropic gallbladder with asymmetrical thickened wall. Common bile duct was minimally dilated and intrahepatic ducts were congested. Pancreas was edematous on computed tomography with a suspicious radioopasity in the distal choledoc. Endoscopic retrograde cholangiopancreatography (ERCP), which was scheduled to decompress the biliary tree, was not successful due to duodenal diverticulum. A prompt conventional cholecystectomy with biliary exploration through cystic duct and biliary bougie drainage were performed. In the exploration the liver was observed to be macro nodular and cirrhotic. Gallbladder was thickened and a necrotic sludge with worm residues was observed when the gallbladder was opened. The postoperative course was uneventful for the patient after a period of intensive care unit hostage to improve liver functions and his general medical condition. Histopathological examinations revealed chronic cholecystitis with eosinophilic infiltration and interstitial hepatitis.

Discussion

Parasitic worms are among the most common and widespread infections of humans in the world today [1]. Especially in the developing world a higher number of the population is estimated to be infected with intestinal nematode worms [2]. The infectious stages of parasites have an easy way to enter their host, usually through the mouth as a contaminant of food, water or fingers, while the next generation leaves the body in faeces through the anus in the form of spores, cysts, eggs or larvae. The human intestinal tract provides a protected habitat for several hundred species of viruses, bacteria, yeasts, protozoa and worms and all of these organisms that live in the intestinal ecosystem

are parasites, because they are dependent for their existence on their host [2]. The only important non-specific barrier to infection is hydrochloric acid in the gut wall. Hydrochloric acid has potential to kill the infectious stages of many potential pathogens, but paradoxically it is also a necessary stimulus for some parasite to establish. For example, it is required for the excystment of Giardia duodenalis and may be a necessary stimulus for the eggs of Ascaris lumbricoides to hatch, along with warmth and exposure to bile salts [14, 15]. In the intestine, once the site where the worms come to maturity, all parasites of the gut have a body surface that is resistant to the action of the host's digestive enzymes, while some worms have developed specific antienzymes presumably for self-protection [16]. This may explain way of the parasite hostage, but fails to explain why not all the hosts have gastrointestinal, hepatobiliary and pancreatic complications. One of the main factors besides the worm burden that is likely to contribute to the development of disease is the duration of infection, something that is not usually known. But even if a worm such as Ascaris lumbricoides can live for as long as 2 years and is then expelled from the gut when it dies, new worms are continually acquired so that people remain persistently infected with slowly changing numbers of worms [2, 14, 15].

Ascaris lumbricoides infections are diagnosed with the observation of the typical eggs, or on occasion the larval or adult worms. Migration of the Ascaris lumbricoides especially through the throat, mouth, or nose may also be observed [17]. In one of the cases we observed the migrating worm through the mouth of the patient during the hospitalization period prior to the surgery. In both cases typical eggs were observed in the faeces of the patients. In the first case we observed the adult parasite moving in the gallbladder under vision of the real time ultrasonography. ERCP was not indicated in the first case and in the second ERCP was not successful.

The parasitic infection may self-cure after the larvae have matured into adults, but some merits antihelmintic treatment. However, interventional removal of the parasite with endoscopy, laparoscopy or surgery may be necessary in some cases with hepatobiliary and pancreatic complications [18-21]. We treated the first case with LC. However, direct detection of the worm was not possible in this case who was treated with albendazole prior to the surgery. This issue was also reported recently by Kaji et al [18]. This failure to detect the worm in the gallbladder after LC may also be explained with the effect of anesthetics as described previously by Chen et al [22]. In the second case worm residues were observed in the gallbladder.

In conclusion, Ascaris lumbricoides should be considered in some patients with hepatobiliary and pancreatic disease, especially in the endemic region. Real time ultrasonography has potential to accurately and reliably diagnose the parasite with lower cost. Biliary tract decompression and even worm extraction may be advocated with ERCP, but surgery may be necessary when it fails to definitely resolve the patients' problem. We believe that breaking of the life cycle of the parasite is of much important to lower infestation rates among the population with increased sanitary quality and self care with hand washing.

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