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Case Report

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Eosinophilic Cholecystitis: A Rare Entity and Review of Literature - Case Report

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Abstract

Eosinophilic cholecystitis (EC) is a rare inflammatory condition of the gallbladder, confirmed by a cellular infiltrate comprised of more than 90% eosinophils in the gallbladder wall on histological examination. Although the etiology of EC is largely unknown, local autoimmune reactions within the gallbladder wall to inflammatory mediators from distal sites of inflammation have been hypothesized. Here we report a case of 55 year old female who presented with un remitting right upper quadrant pain, chills, and loss of appetite.

Keywords: Eosinophilic cholecystitis (EC), cholecystectomy

Introduction

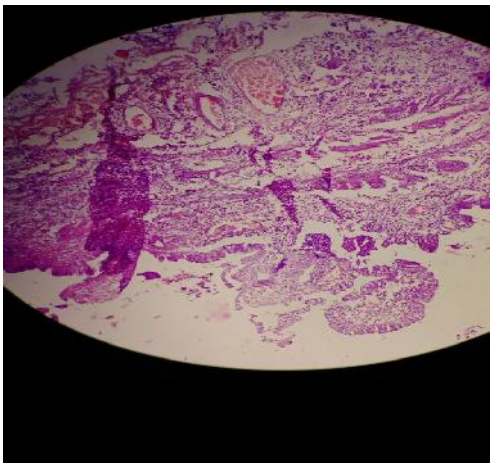
First described in 1949, EC is a rare and poorly understood inflammatory condition of the gallbladder, with fewer than 30 cases described in the literature[1,2,3]. Clinically indistinguishable from other causes of cholecystitis, diagnosis is based on histological examination of the surgical specimen (following cholecystectomy) and confirmed when cellular infiltrate of the gallbladder wall is composed of more than 90% eosinophils[4] . It can occur with or without an associated peripheral hypereosinophilia. The etiology of EC is unknown but links have been hypothesized between local autoimmune reactions to inflammatory mediators, hyper-eosinophilic syndromes, eosinophilic gastroenteritis, parasitosis, drugs and medicinal herbs[5] . Occasionally, apparent precipitating etiology is absent and idiopathic EC is described. We had conducted 463 cholecyctectomies for cholelithiasis in surgery department in past 3 years. There turned out to be only one case of eosinophilic cholecystitis. Here we present a case of a 55 year old woman who presented with eosinophilic cholecystitis.

Case Report

A 55 year old woman presented with un remitting right upper quadrant pain, chills, and loss of apetite for the past one month. Her symptoms was exaggerated for the past one week and was admitted in the emergency department. She did not have associated jaundice. She had undergone ultra sound abdomen which revealed cholecystitis with cholelithiasis. The gall bladder thickness was normal and there was no

common bile duct dilatation. Her portal system was normal in USG. The blood parameters including peripheral smear revealed no abnormal pathology except for marginally raised total WBC count. She was initially managed with intravenous fluids and antibiotics which included cephalosporins and supportive therapy. Two days later she was taken up for elective open cholecystectomy. The cholecystectomy specimen revealed gall bladder measuring 9cm in length. (Figure-1) on cutting multiple small pigmented stones were recovered and sludge came out. Microscopic examination showed features of eosinophilic cholecystitis with cholelithiasis. (Figure-2) The patient received antibiotic therapy with cephalosporins and quinolones for one week following surgery. The patient was symptomatically relived at time of discharge.She was followed up for three months and had no further similar episodes.

Figure-1
(specimen of excised gall bladder)



Table/Figure-2
(section showing submucosal infiltration with eosinophils, consistent with EC.)

Discussion

In the majority of cases of cholecystitis, gallstone impaction in the neck of the gallbladder or cystic duct sets off the inflammatory process. The bile concentrates, which leads to chemical irritation and may facilitate bacterial incursion [6,7] . Lymphocytes, macrophages, and neutrophils comprise the inflammatory infiltrate along with mucosal edema, vascular congestion, and regions of necrosis [8,9,10] . When the infiltrate is made up of an abundant amount of eosinophils, there are signs of inflammation, granulation tissue, and fibroblast propagation Eosinophilic infiltration of the gastrointestinal tract may occur not only as EC, hyper eosinophilic syndrome (including eosinophilic cholangiopathy), but also as eosinophilic granulomatous hepatitis and eosino-philic ascites [11] . The symptoms observed vary as to the location and depth of the gastrointestinal tract affected . When there is mucosal invasion, post-prandial nausea and vomiting, weight loss, iron deficiency anemia, steatorrhea, malabsorption, and protein-losing enteropathy are observed. In muscularis propria invasion, nausea and vomiting also occur with abdominal distention and intermittent bowel obstruction. With subserosal invasion, abdominal pain, distention, pleural effusion, and ascites occur.

In a study of 625 surgically removed gallbladders in England, 16 had eosinophilic infiltration.

Acalculous cholecystitis has also been associated with eosinophilic cholecystitis, with invasion of the mucosal surface by eosinophils .Causes of acute acalculous cholecystitis include herbal medicine, critical illness, decreased motility of the gastro-intestinal tract, major burns, and hyperalimentation . Other causes include polyarteritis nodosa, lupus erythematosus, Crohn’s disease, sarcoidosis, and Sjogren’s syndrome.

In the absence of any apparent precipitating etiology, the case described herein is considered one of idiopathic EC. Pathologic examination of the gallbladder revealed eosinophilic chholecystitis with cholelithiasis with no evidence of parasitic infestation. The patient had an unremarkable recovery and was discharged to home without any complications. Significant peripheral eosinophilia was not noted during the hospital course.

Treatment for EC, which oftentimes cannot be distinguished from cholecystitis, consists of surgical removal of the diseased gallbladder (cholecystectomy), comparable to the treatment of standard cholecystitis. Medical management may depend on the severity and disease location. Considerable infiltration of the muscularis by eosinophils with vascular occlusion entails surgery, whereas involvement of the mucosa or adventitia without vascular changes responds well to steroids [11]. Our patient had cholelithiasis with cholecystitis, definitive therapy with surgery led to full recovery. In summary Idiopathic Eosinophilic Cholecystitis is a rare condition of which gastroenterologists, pathologists, and surgeons need to be cognizant. Although the presentation may be similar to general cholecystitis, the underlying etiology must be defined because if a causative factor is discovered, treatment may warrant more than a cholecystectomy or may lead to findings of other organ infiltration.

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