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Case Report

CHOLELITHIASIS WITH ITP: A RARE CASE REPORT

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ABSTRACT

This is a case of a 4-year-old gallstones with ITP patients, she was hospitalized for repeated abdominal pain and vomiting for one year.During hospitalization, ultrasound and MRCP found linear foreign bodies in the common bile duct, because of the children had been treated with medinazole twice, So Our initial diagnosis was biliary ascariasis, However,we extracted the foreign body through ERCP was confirmed to be muddy stones.Moreover, the thrombocytopenia in this child has a long duration and poor therapeutic effect, which may be related to gallstones induced infection.

Keywords: Biliary ascariasis; gallstones; ITP

BACKGROUND

There is a somewhat false perception that gallstone can only occur in adults, with a prevalence in modern Western societies of 15%-20%;[1] however, children are by no means exempt. The prevalence of gallstones in the pediatric population has been reported infrequently and is known to vary between countries. Italy, for instance, has an estimated prevalence of 0.13%-0.2% in infants and children[2] and Japans has been reported as about 0.13%.[3] The highest prevalence has been reported from the Netherlands and is based on ultrasonography screening at 1.9%.[4]Immune thrombocytopenia(ITP)is an autoimmune disease mediated by anti-platelet autoantibodies, characterized by thrombocytopenia alone in patients with normal blood count and leukocyte differentiation. Now we report a recent case of gallstones with IPT in our department as follows.

Case presentation:

A 4-year-old girl,was hospitalized for "repeated abdominal pain and vomiting for one year, abdominal pain and vomiting again for half a day".All were diagnosed as acute gastroenteritis before,and the child's condition soon improved after treatment.She had been treated with medinazole twice and no ascaris excretion was observed.Ultrasound of the abdomen showed abnormal echo in the common bile duct (ascaris lumbricoides) and Choledochodilatation. Blood routine examination showed PLT 72*10^9/L. Half a day before admission, the girl had persistent abdominal pain again, accompanied by vomiting, the vomitus was gastric contents and a little bile, no diarrhea, no fever, and no ecchyma.General examination was normal and vitals were within the normal range. Abdominal wall was soft, Murphy's sign was negative, was slight pain when pressed, no rebound pain, and no mass was touched in the whole abdomen. Tympanic note was heard on percussion and bowel sounds were heard. Other systemic examinations were normal.Neither child's parents nor grandparents had a history of gallstones.

Relevant investigations were sent. TB 10.8μmol/L,DB 3.4μmol/L,ALT 19 U/L,AST 48 U/L.Blood routine examination: WBC 8.87 *10^9/L, HGB 107.00g /L, PLT 56 *10^9/L, N 27.74%, L 63.64%, EO 3.2%.Renal function, electrolyte and coagulation analysis were normal.Ultrasonography showed strong echogenicity in the lower segment of the common bile duct and the possibility of biliary ascaris(Figure 1).MRCP showed that strip low signal shadows were seen in the common liver, common bile duct and gallbladder duct, and no obvious signs of dilatation were seen in the intrahepatic and extrahepatic bile duct,Consider biliary ascaris(Figure 2).Routine bone marrow examination showed no obvious abnormalities.No eggs of ascaris were found in the stool.Anti-Mycoplasma pneumoniae antibody IgM positive,antibody of influenza B virus weakly positive,antibody of Hepatitis A, antibody of Hepatitis B,antibody of Hepatitis C,antibody of Hepatitis D,antibody of Hepatitis E, syphilis, HIV, antibody of EB virus, antibody of Legionella pneumophila, antibody of Chlamydia pneumoniae, antibody of respiratory syncytial virus, antibody of influenza A virus, antibody of parainfluenza virus type 1, 2 and 3 were all negative.Human cytomegalovirus nucleic acid negative.The C13 breath test was negative.Combined with the history of ascaris lumbricoides, ultrasound and MRCP, the girl was preliminarily considered to be diagnosed as "Biliary ascariasis with ITP".And then the parents transferred the girl to Wuhan Children's Hospital Affiliated to Tongji Medical College,Huazhong University of

Science&Technology.Doctors at Wuhan Children's Hospital gave the girl gamma globulin shock therapy but the platelet count was still low. So they transfused platelets for the girl to elevate the platelets to a safe range and then performed ERCP to remove the gallbladder foreign body, which were confirmed to be muddy stones.Since then, the girl's platelet did not decline.

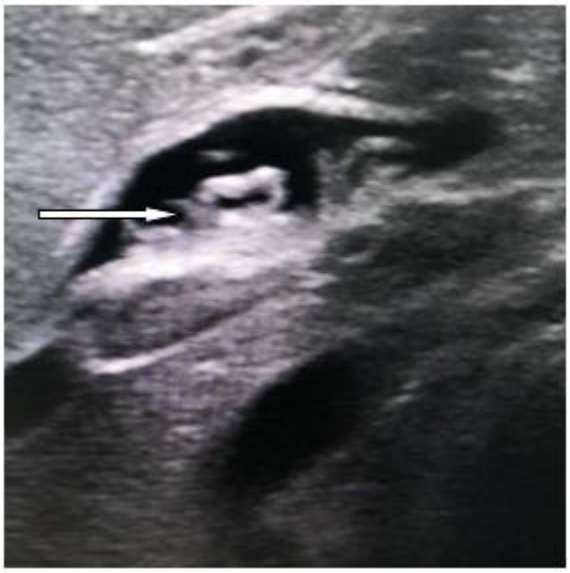

Figure 1

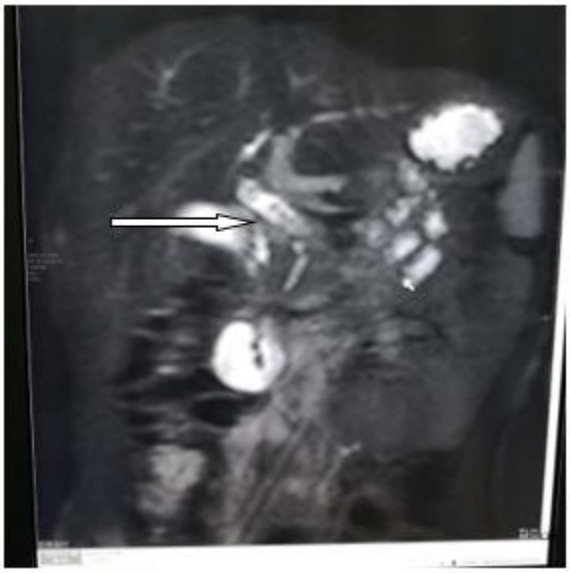

Figure 2

DISCUSSION

Ascariasis is one of the most common parasitic infections worldwide, mainly distributed in Asia and Latin America, especially in developing countries in tropical regions.[5-6]The A.lumbricoides are fond of drilling

holes, which can cause biliary ascariasis by invading the biliary system through the oddi sphincter.Patients with biliary ascaris are usually treated with paroxysmal abdominal pain at the right side under the xiphoid process. Paroxysmal drilling-like pain is its typical manifestation. When the worm body completely enters the bile duct or gallbladder, the pain will be relieved instead.Its diagnosis is mainly based on typical clinical manifestations, ultrasound[7], stool examination, MRCP[8], ERCP[9] and endoscopy, etc.Ultrasound and MRCP of this girl all suggested that there was a long strip foreign body in the common bile duct, which was similar to the form of ascaris, and combined with antihelminthic treatment given to the girl, we considered it as biliary ascaris.However, after careful analysis,there are still some doubts when considering biliary ascariasis in this girl:1.With the improvement of hygienic conditions and people's hygienic habits, children infected with Ascaris lumbricoide are very rare. The author has been engaged in pediatric clinical work for more than ten years, and the author's department has not diagnosed one child infected with Ascaris lumbricoide;2.The girl had been gave antihelminthic treatment, but no dead worms were discharged;3.The blood routine examination showed that the percentage of eosinophils was normal, and no intestinal ascaris was found in the abdominal ultrasound.The “three-line” sign noted on MRCP is a distinctive characteristic of biliary ascariasis[10],but the MRCP of this girl has not it.

Four types of gallstones have been described in children: cholesterol, black pigment, brown pigment, and calcium carbonate stones.[11,12]Gallstone disease in children is evolving and can be attributed to multiple conditions and physiological stresses that predispose to the development of all types of gallstones.[13]There are many risk factors for development of gallstone disease in children,for example:Hemolytic disease、Neonatal/congenital、Genetic、Dietary、Systemic disease、Medications、Surgery et al.There is no clear risk factors for development of gallstone disease in this girl.Therefore, we consider that the gallstones of this patient may be related to genetic factor.

Gallstones in children present in a similar way to that of adults,although there seems to be a delay from onset of symptoms to diagnosis/defifinitive treatment.[13]Gallstones may present in a variety of ways:Pain is the commonest symptom, predominantly in the right upper quadrant (85%- 94%), less so epigastrically (~34%).This may be accompanied by nausea and vomiting in up to 60%.Some patients have fever and jaundice.Nonspecific abdominal pain and irritability may occur at patients <5 years of age and in hemolytic disease.[4,14]In addition,some patients are asymptomatic, these are usually detected on ultrasonography while assessing for other abdominal pathology.Young children have poor expression, unable to provide accurate abdominal pain nature and location, so it is difficult to diagnose the disease.The girl in the course of the disease, mainly characterized by recurrent abdominal pain and vomiting, no fever and jaundice,so we preliminary diagnosis of acute gastroenteritis.According to the treatment of acute gastroenteritis, the child's condition soon improved, it makes us believe that the diagnosis of acute gastroenteritis is correct, which can lead us ignore gallstones-a rare disease in children.However, since this girl had repeated abdominal pain and vomiting for one

year, we should consider the possibility of more diseases and improve relevant examinations, so as to avoid misdiagnosis.

Immune thrombocytopenia(ITP) is the most common bone marrow relatively normal and the bleeding of skin/mucosa is the main manifestation of thrombocytopenic hemorrhagic disease in children.At present, it is believed that, on the basis of unknown genetic susceptibility, various inducing factors(mainly viral infection)trigger the autoimmune response and produces platelet autoantibodies in children.[15]In this case, antibody of mycoplasma was positive and antibody of influenza B virus was weakly positive. ITP in this case may be related to influenza B virus infection.Gasbarrini et al. first found the correlation between the onset of ITP and HP infection, and after strict anti-HP treatment, the platelet count in the peripheral blood of patients with ITP combined with HP infection was detected to be significantly increased. Therefore, we speculated that the persistent thrombocytopenia and poor therapeutic effect of this girl was related to the infection induced by gallstones.

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