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CASE REPORT

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An Unexpected Finding: A Gallstone in a 21-month-old Infant Causing Obstruction

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INTRODUCTION

Gallstones disease is an uncommon event in infancy and childhood. The history of a 21-month-old infant with gallstones producing biliary obstruction is presented. A review of the literature focused on acquired disorders of the biliary tract, including previous epidemiological studies that describe age, etiology and outcome of patients with this disease.

CASE PRESENTATION

A previously healthy 21-month-old infant presented with abdominal pain and jaundice to our institution. The infant presented with severe, crying spells and several episodes of vomiting. This process continued for 9 days and by that time the parents noticed the jaundice, choluria and acholic stools. They denied any fever or chills. His past medical history was unremarkable, and he did not have any previous surgeries. There was no family history of biliary or liver disease, one sibling was totally healthy. He was not taking any medication, and there was not known allergies. His temperature was 36.7 C, pulse 162, respirations 28 and blood pressure 140/91 mm Hg. He was irritable, had jaundiced skin and icteric sclera. There was guarding and tenderness diffusely on his abdomen but no organomegaly. His laboratory findings were significant for WBC 12.4 x10^3 /mm^3 with a normal differential; hemoglobin of 13.6 g/dL and hematocrit of 39%; total bilirrubin of 9.1 mg/dL with the direct fraction of 6.1 mg/dL; amylase 21 units/L; lipase 24 units/L; AST 167 units/L; ALT 232 units/L; alkaline phosphatase 731 units/L.

An abdominal ultrasound showed that the gallbladder was distended with irregular walls. There were mobile intraluminal defects with low level echogenicity. The gallbladder wall measured 2.54 mm and the bile duct measured 10 mm and was fusiform in appearance with tapering proximally and distally. The intrahepatic biliary tree was not dilated. Results of a Magnetic Resonance Cholangio Pancreatography confirmed that there was no intrahepatic biliary dilatation, but showed that the cystic duct was tortuous and had a low lying insertion along the lateral aspect of CBD just above the ampulla. The gallbladder was distended with pericholecystic inflammatory changes. Radiological interpretation suggested that findings were consistent with a choledochal cyst and that an ERCP would provide us with more information. A Gastrointestinal consult was placed and it was decided by the team that an ERCP should be performed with the following findings: The major papilla was normal. The lower third of the main bile duct contained one stone which was 6 mm in diameter. The entire biliary tree was moderately dilated. A 10 mm biliary sphincterotomy was made with no bleeding. The biliary tree was swept with a balloon starting at its bifurcation, one stone was removed. The stone was relatively soft and light yellow in color. Follow up on his laboratory findings two days after the procedure showed that the total bilirrubin was 2.0 mg/dL; AST 87 units/L, ALT 158 units/L and Alk Phos 345 units/L. At this time he also underwent a laparoscopic cholecystectomy with an intraoperative cholangiogram that showed no residual filling defects in the common bile duct. The patient continued to improve, jaundice and abdominal pain resolved and he was discharged with follow up with his pediatrician.

DISCUSSION

Cholelithiasis is an uncommon finding in children, and very little is known about the natural history and incidence of the pathology. Recently it has been more frequently recognized because of improved detection with sonograms. It is been proposed that it has relatively low incidence because biliary cholesterol saturation increases with age [1].

In the pediatric population there are certain conditions that have been related to the predisposing of gallstones. Hemolytic disease, total parenteral nutrition, short bowel syndrome and adolescent pregnancy are within these factors. There is another large group that has not been identified to have a predisposing factor, so idiopathic in origin [2]. Incidence of idiopathic cases has been increasing. It has been proposed that this observation may be related to the increasing availability and wider use of abdominal ultrasound for evaluation. Changes in the dietary patterns also have a role. We believe our patient pertains to this group.

The optimal treatment of choledocholithasis in infants remains controversial. This may well be attributable to the extremely low number of reported cases in the literature. However, conservative management of asymptomatic neonatal and infantile cholelithiasis has been shown to result in spontaneous resolution with ranges from 20% to 80% of reported cases [3]. Although some cases of obstructive jaundice due to CBD stones may resolve spontaneously, intervention is usually indicated in the symptomatic patients. Treatment for CBD stones in children include laparoscopic cholecystectomy combined with preoperative or postoperative ERCP and stone extraction [4].

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ERCP has been more common in the last years for the diagnosis and treatment of biliary problems in children. The procedure is safe, presenting a complication rate similar to that observed in adults. Need for general anesthesia is much more frequent in children. When performed by well-trained endoscopists is useful and safe in children [5].

CONCLUSION

Some studies have proposed that the incidence of idiopathic gallstones in young children has been increasing. We presented the case of a 21-month-old child and outlined the main clinical findings. And explanation of this increasing incidence may be that we are probably diagnosing more cases due to the availability and relative cost effectiveness of abdominal ultrasound. A population based prospective study may help clarify many aspects of the natural history, incidence and treatment of this uncommon pathology.

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Acknowledgements: The authors thank Dr. Richard McCallum.

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