CASE REPORT

CHOLELITHIASIS IN A YOUNG INFANT

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Abstract

This is a case report of a 40 day old male baby who presented with obstructive jaundice secondary to gall stones. There was no risk factor for cholelithiasis except phototherapy. Baby was treated conservatively and on follow up showed evidence of spontaneous resolution of gall stones.

Key words: Cholelithiasis, gall stones, obstructive jaundice, infant

Introduction

Cholelithiasis is an uncommon condition during childhood representing only 1% of total cases (1,2). In neonates and infants cholelithiasis has been reported only rarely (3). Among various predisposing conditions described, hemolytic conditions like hereditary spherocytosis & sickle cell disease are the commonest (4-5). Biliary pain and obstructive jaundice are the most common presentations, but a large number of cases remain asymptomatic (6).Phototherapy which is widely used in the neonatal ICU has been identified as a risk factor for cholelithiasis by many authors (7-10). Laproscopic cholecystectomy is the routine treatment of choice in symptomatic cases(11-12), but spontaneous resolution of gall stones in infants are being increasingly reported(13-14).We report a 40 day old infant with cholelithiasis.

Case Report

A male term intrauterine growth retarded (IUGR) baby with a birth weight of 1.9 kg was delivered by cesarean section for fetal distress. Baby was admitted in the neonatal intensive care unit (NICU) on 3rd day of life with symptomatic hypoglycemia & hyperbilirubinemia. Baby was treated with phototherapy for 72 hours, was not given any antibiotics & was discharged after 7 days of hospital stay. There was no respiratory distress, prolonged fasting or total parenteral nutrition. Antenatal period was uneventful with a normal antenatal ultrasonogram. Mother noticed yellowish discoloration of sclera & urine on 40th day of life &was admitted in our hospital for evaluation. Stool was clay colored intermittently & there was deep staining of the diapers. On examination the baby was active, alert & icterus was present. There was no facial dysmorphism, microcephaly, failure to thrive or ocular cataract. Liver was palpable 3.5 cm below the right costal margin with a firm consistency & the span was 6cm. On investigation total bilirubin was 11 mg% with a conjugate fraction of 8 mg%., ALT & AST were 330 and 512 IU/L respectively. Alkaline phosphatase was 603 IU/L & random blood sugar was 76mg%. Thyroid function was normal. TORCH screening, HIV, serum markers for hepatitis A, B & C were negative. Urine for reducing substances were also negative. Peripheral smear was normal with no evidence of hemolysis. Reticulocyte count was 1.2% & direct coomb's test was negative. Blood culture, urine culture & C-reactive protein were negative. X- Ray abdomen did not show any radio opaque shadows. With these data, a diagnosis of neonatal hepatitis was considered and an ultrasonography of abdomen was done. It showed 6.5 cm sized liver with normal echogenicity, distended gall bladder and multiple gall stones in the gall bladder with largest measuring 8 mm size. Hepatobiliary scintigraphy was not done as the gall bladder was seen distended and extrahepatic biliary atresia was not considered as a possibility. Liver biopsy was suggested but the parents were not willing. As cystic fibrosis is uncommon in our locality, we have planned to evaluate for the same, if symptomatic on follow up. Baby was treated conservatively and was closely followed up. One month later urine color became normal & jaundice disappeared. Bilirubin became 1.5mg% with conjugate fraction 0.5mg% ALT & AST reduced to 85 & 95 IU/L respectively. Repeat Ultrasonography showed disappearance of many small stones & regression of largest calculi to 6mm size. On follow up after 2 months liver was not palpable, bilirubin was 0.5 mg/% and ALT & AST were 42 & 47IU/L respectively.

Discussion

Cholelithiasis in children occurs secondary to various predisposing conditions. In children, >70% of gall stones are of pigment type, 15-20% are cholesterol stones & remaining are a mixture of cholesterol, organic matrix and calcium bicarbonate (17). In infants brown pigments are common which is due to biliary tract infections & are radiolucent. The common predisposing conditions are hemolytic anemias, prolonged fasting, total parenteral nutrition, ileal resection, sepsis & cystic fibrosis. Others include drugs like Ceftriaxone & frusemide (10), prematurity (15), phototherapy (7-8), gastrointestinal dysfunctions (16), necrotizing enterocolitis, disturbances of enterohepatic circulation of bile acids & biliary dyskinesia. Recently bronchopulmonary dysplasia & gastroesophageal reflux are also reported as risk factors for cholelithiasis (10,15).Among hemolytic disorders sickle cell disease (12%) and hereditary spherocytosis (4-63%) are the commonest conditions. No predisposing causes are found in upto 42.8% of infants (14,19).Biliary sludging can be detected in >40% of infants receiving ceftriaxone for >10 days. It forms calcium ceftriaxone salts (pseudocholelithiasis) (17).

Most common presentations of cholelithiasis are biliary pain and obstructive jaundice. Jaundice is more commonly seen in infants and young children (18). Twenty nine percent cases present with obstructive jaundice. Other presentations are pancreatitis (1%), intolerance for fatty foods etc. Acute cholecystitis could be the first symptom. But 67% of gall stones remain asymptomatic and they are detected during routine ultrasonography (18). So all newborn babies with any risk factors can be screened for gall stones during early infancy. Phototherapy was the only risk factor identified in our case. Laproscopic cholecystectomy is generally the treatment of choice in symptomatic cases of cholelithiasis. In asymptomatic cases it may

take decades to develop symptoms & many develop complications also. So management in asymptomatic cases poses problems and depends on the risk factors (18). Spontaneous resolution of symptomatic & asymptomatic cases are being increasingly reported (10,14,19,20). In our case surgical management was not tried as the baby showed signs of resolution early. Our case presented with obstructive jaundice & gall stones were detected during evaluation. Many authors suggests that gall stones can be included among the causes of obstructive jaundice in infants (14,20).

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