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CASE REPORT

Fetal biliary lithiasis in third trimester of pregnancy: case report and literature review

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Abstract

Fetal biliary lithiasis is a benign condition usually incidentally diagnosed in a routine obstetric echography. Incidence varies from 0,03% to 2,3%. Usually presents spontaneous resolution with excellent prognosis. In the case here reported, obstetric ultrasound performed at 34 gestational weeks demonstrated hyperechoic image in gall bladder suggesting biliary lithiasis. No complications occurred during gestation period. Three ears earlier the patients mother was submitted to laparoscopic cholecystectomy due to lithiasis and cholangitis. With 37 gestational weeks the patient was born, female, Apgar 8/9, vaginal delivery, no complications. At her first day of life abdominal echography was performed and confirmed the presence of thick bile and at least two gallstones measuring up to 0,7cm with no inflammatory signs and no laboratorial alterations. Patient presented neonatal icteric that was treated with simple phototherapy. Conservative treatment was chosen. When completed 6 months of age new echography was performed and demonstrated no signs of gallstones indicating spontaneous resolution of the biliary lithiasis. Even knowing that most part of the cases present no repercussion and also need no intervention, the post-natal follow up it is important with special attention to cases with persistence of lithiasis or biliary obstruction, making it possible to treat precociously when needed.

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INTRODUCTION

Fetal cholelithiasis is a rare benign condition incidentally diagnosed by a routine obstetric ultrasound. Its reported incidence in the literature varies from 0.03% to 2.3%[1]. The first report of gallstones diagnosed in the neonatal period dates from 1983[2], although there are reports of findings of this pathology in autopsies in the year 1928[3]. Complications are rare, and in most of the described series, gallstones present spontaneous resolution within the first year of birth life[4].

CASE REPORT

Pregnant woman in low-risk prenatal care, adequate follow-up with consultations and laboratory tests as established, all serologies negative, pregnancy without complications or changes until the 34th week of gestation, when routine ultrasound showed the presence of a hyperechoic image in the topography of the gallbladder, suggesting a stone. Previous maternal history showed that 3 years before pregnancy she underwent laparoscopic cholecystectomy with intraoperative cholangiography due to cholangitis and gallstones. The rest of the pregnancy passed normally. At 37 weeks of gestational age, she presented spontaneous vaginal delivery, without intercurrences, a female NB, with Apgar 8/9 and weight of 2710 grams. With no changes in the physical examination, she underwent an abdominal ultrasound at 24 hours of life, which showed a topical gallbladder, with thin and regular walls, containing thick bile and at least 2 stones inside, measuring up to 0.7 cm (Figures 1 and 2), without associated inflammatory signs. At the time, laboratory tests were also performed, with no changes in bilirubin and canalicular enzymes.



Figure 1. Ultrasound of the newborn with 24 hours of life demonstrating gallstones, without inflammatory signs

At 48 hours of life, she presented neonatal jaundice in Krammer's zone 2, and was treated with simple phototherapy for 36 hours with clinical improvement. As she did not present clinical symptoms or inflammatory signs or laboratory alterations, an outpatient clinical follow-up was chosen. She continued follow-up in childcare with special attention to rebound jaundice and blood dyscrasia, being referred for evaluation with hematology, which released her after completion of the investigation.



Figure 2. Ultrasound of the newborn with 24 hours of life demonstrating gallstones, without inflammatory signs

Upon completing six months of life, the laboratory tests were repeated, which showed results within the normal range and the abdominal ultrasound did not show the presence of stones, indicating spontaneous resolution of the cholelithiasis. Currently, the patient is one year old, she is still under outpatient childcare follow-up, with no signs of recurrence of lithiasis or other complications.

DISCUSSION

In the last decades, there has been an increase in the detection of gallstones in the prenatal period, probably due to the increase in the use of ultrasound in this period and the better accuracy of this exam, with increasing improvement of ultrasound devices and also greater experience of doctors who perform this exam[2]. According to the literature, from the 14th week of gestation, the fetal gallbladder can be identified as a drop-shaped structure, with a thin wall, adjacent to the lower surface of the right hepatic lobe[4]. According to the literature, after 20 weeks of gestation, the gallbladder can be easily identified in up to 64.7% of patients[2]. The presence of echogenic material within the structure is generally not well defined before 26 weeks of gestation[2]. The pathophysiology of stone formation in this period remains uncertain, but it is suggested that it occurs in the third trimester due to the abnormal production of bile, changes in its composition and transport in this period[1,2].

Unlike lithiasis that occurs in pediatric and adult patients, where risk factors associated with stone formation are well accepted, in the neonatal period, although some risk factors are suggested, they are not widely established[3]. Among these factors we can mention: hemolytic disease, placental abruption, use of narcotics and antibiotics by the mother, twin pregnancy, cholestasis during pregnancy, congenital anatomical malformations, chromosomal abnormalities, biliary tree alterations and blood incompatibility[1,2,5]. The presence of a maternal history of cholelithiasis is another factor that seems to be associated with the appearance of lithiasis in the prenatal period[3,6], a risk factor that was identified in the case described here. It is estimated that these factors are present in 1 in 4 cases, and the remaining 3 cases would not present any abnormalities that would justify gallstones in the prenatal period[3].

The presence of biliary sludge before 26 weeks of gestation is described as a risk factor for chronification of lithiasis after birth, and the appearance of stones after 30 weeks of gestation is associated with a good postnatal prognosis[6].

In most of the current literature, there is a predisposition for the male sex[1], contrary to what was found in the reported case. Most cases present with the absence of symptoms, even after birth[7], as presented in this report. The suspicion of gallstones must be differentiated from ultrasound findings of other pathologies such as meconium peritonitis, infection, subphrenic pulmonary sequestration, cystic hepatic masses, infectious intrahepatic calcifications and gallbladder hemangiomas[5].

According to the literature, about 70% of cases resolve spontaneously within the first 3 months of life, 90% within 6 months of life[3] and almost all of them resolve before one year of age[6,7]. Thus, the choice of conservative treatment is reinforced by the literature[3] and follow-up with serial ultrasounds is recommended[2,3]. There are some descriptions of symptomatic cases treated with ursodeoxycholic acid[2] and in the reviewed literature few cases of need for early surgery were found[1,3]. Complications due to the presence of stones are rare[4]. Recurrence rates are unknown[2] but studies have already demonstrated a predisposition of patients with fetal stones to the development of gallstones in the future[3].

CONCLUSION

Although most cases do not have repercussions for patients or require interventions, knowledge about this pathology is important and strict postnatal follow-up should be carried out, with special attention to cases of persistent stones or obstruction of the bile ducts, seeking to enable early treatment if necessary.

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