

Cholecystitis during pregnancy.

A case report and brief review of the literature

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Summary

Cholecystitis is an inflammation of the gallbladder caused by obstruction of the cystic duct. A gallstone usually causes the obstruction (calculous cholecystitis). However, in some cases the obstruction may be acalculous or caused by sludge. The clinical course of biliary sludge varies, from complete resolution to gallbladder obstruction. This obstruction can result in gallbladder distension and acute cholecystitis. When inflammation occurs it could either be aseptic or bacterial. Biliary disease during pregnancy is relatively rare and occurs mainly during the last trimester. Whether women who are pregnant or have multiple pregnancies are more likely to develop stones or whether they are simply more symptomatic with stones is unknown. We present a 33-year-old obese pregnant woman with fever, moderately elevated bile acids, and leukocytosis in the 28th week of pregnancy. Since need for surgery in these cases is controversial, the patient has been treated conservatively. In our case cholecystitis responded very well to treatment with amoxicillin, with no detrimental effects for mother and child. A healthy child was born at term. In the differential diagnosis of liver function abnormalities during pregnancy, cholelithiasis should be included.

Key words: Cholecystitis; Pregnancy; Surgery.

Introduction

Cholecystitis is an inflammation of the gallbladder caused by obstruction of the cystic duct. The obstruction could be either caused by gallstones or sludge, while in some cases obstruction could be acalculous caused by edema or local inflammation. Clinical manifestation of biliary tract disease includes asymptomatic gallstones found accidentally at ultrasound, biliary colic, cholecystitis, choledocholithiasis, and cholangitis. Asymptomatic gallstones are more common in women; autopsies have shown that at least 20% of women in all age groups have gallstones [1]. Although, biliary disease during pregnancy is rare [2], pregnancy itself is being considered as a risk factor for the formation of biliary sludge and gallstones [3]. Whether women who are pregnant or have multiple pregnancies are more likely to develop stones or whether they are simply more symptomatic with stones is unknown. Cholecystitis during pregnancy occurs mainly during the last trimester; the usual clinical presentation consists of biliary colic and fever [4].

Case Report

The patient, a 33-year-old obese woman in her second pregnancy at the 22nd week of gestation with no prior history of cholelithiasis, presented to our outpatient department with fever, constant epigastric pain, sometimes accompanied by attacks of colicky-like pains originating from the right upper quadrant and radiating to the right scapular region. The patient tended to move around to seek relief from the pain. She also complained of nausea, vomiting and anorexia. The urine was not darkly colored and the feces were not discolored. On phys-

ical examination blood pressure was 135/80. Palpation of the epigastric area caused diffuse epigastric pain. The liver and spleen were neither palpable nor tender. The lungs were clear and heart sounds of both mother and fetus were normal. Laboratory evaluation showed moderate leucocytosis, bilirubin 7 mol/l (< 10 mol/l), alkaline phosphatase 298 U/l (normal 40-120 and during pregnancy 60-200 U/l), glutamyl transpeptidase 71 U/l (5-35 U/l), aspartate aminotransferase (ASAT) 85 U/l (12-35 U/l), alanine aminotransferase (ALAT) 73 U/l (8-40 U/l), lactate dehydrogenase 429 U/l (200-450 U/l), and bile acids 43 mol/l (0-10 mol/l). Temperature climbed up to 38.5°C and other laboratory values were normal. Ultrasound imaging revealed low-level echoes lying in the dependent portion of the gallbladder without acoustic shadowing and gallbladder wall edema, with a slight dilatation of the gallbladder. The diagnosis of cholecystitis was established and we decided to start treatment with intravenous amoxicillin and oral ursodeoxycholic acid administration. Three days after initiating amoxicillin, the fever disappeared, and leucocytes turned to normal, while five days later both ASAT and ALAT were only slightly elevated. The bile acid level also returned to normal. At 38 weeks and two days a healthy baby boy weighing 3,570 g was born through the vaginal route.

Discussion

Cholecystitis during pregnancy occurs mainly during the last trimester and it is mainly caused by obstruction of the cystic duct by gallstones or sludge [2]. Biliary sludge is a mixture of particulate matter and bile that occurs when solutes in bile precipitate [5]. Its composition varies, but cholesterol monohydrate crystals and calcium salts are the most common components. Pregnancy has been proposed, among other clinical parameters and events (e.g., rapid weight loss and certain medical therapies), as a risk factor for the formation of

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biliary sludge. Other conditions associated with biliary colic and cholecystitis include older age, obesity and certain ethnic groups. Although some authors have proposed that the frequency of biliary sludge among pregnant and non pregnant women is equal and pregnant women are simply more symptomatic with stones [5], others have demonstrated that the risk for developing gallstones increases with the number of pregnancies, and most of the stones develop during the second or third trimester [6]. Although nuclear medicine studies are the best imaging methods for the diagnosis of both cholelithiasis and cholecystitis, ultrasound imaging is the only safe test for the diagnosis of acute cholecystitis in pregnant women [7]. It is 90-95% sensitive for cholecystitis and 78-80% specific [8]. Sludge has a characteristic ultrasound imaging of movable, low-amplitude echoes that lie in the most dependent part of the gallbladder not associated with acoustic shadowing. Findings suggesting cholecystitis in the presence of sludge include one or more of the following conditions: gallbladder wall thickening ($> 2-4$ mm), gallbladder distension (diameter > 4 cm, length > 10 cm), pericholecystic fluid from perforation or exudate and sonographic Murphy signs (pain when the probe is pushed directly on the gallbladder). Air in the gallbladder wall is normally absent in uncomplicated cholecystitis, and if present indicates gangrenous cholecystitis [8]. Results of four studies [3, 9-11] showed that during follow-up periods ranging from five to 38 months, sludge disappeared in 60% to 75% of patients. In a small group of patients, however, sludge disappeared only to reappear or to evolve into gallstones [9]. Therefore, since sludge appears, disappears and reappears, its formation could be considered as a dynamic, reversible process. In such case, the need for surgery in a certain group of patients (e.g., pregnant women) could be controversial [12]. On the other hand, conservative treatment to dissolve sludge with ursodeoxycholic acid even if successfully [13, 14] and safely used in pregnancy [15] is of moderate efficacy [16]. For this reason, the use of ursodeoxycholic acid to dissolve sludge is difficult to be proposed as an alternative to surgery – at least in those cases where surgery will be required at some point [4].

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