To the Editor:

Gestational hyperlipidemic pancreatitis is an uncommon but serious disorder. In women having type I, IV, or V hyperlipoproteinemia (HLP), the superimposition of the physiologic hyperlipidemia of pregnancy may lead to acute pancreatitis. Here, we present a case of gestational hyperlipidemic pancreatitis associated with apo E2/E2 homozygous type III HLP.

A 39-year-old gravida 3, para 2 woman without known medical history except hyperlipidemia for 3 years and regular medication until 6 months before preparation of gestation was referred to our hospital for acute pancreatitis at 14 weeks of gestation. On arrival, the lipid profiles showed hypercholesterolemia (807 mg/dL) and hypertriglycerideremia (3596 mg/dL). During her stay in the hospital, she received total parenteral nutrition for 14 days and resumed oral intake with low-fat diet smoothly. She was discharged at 18 weeks of gestation and continued with the low-fat diet with fish oil supplement (4 g/d) according to the dietitian’s instruction. She gave birth to a healthy male infant at 39 weeks of gestation, and her triglyceride level fell below 1000 mg/dL after delivery.

At 25 weeks of gestation, the patient, her family (except her mother who died of lymphoma), and a normal control subject underwent laboratory screening. Serum lipoprotein analyses by agarose gel electrophoresis from the patient, her father and elder brother showed broad β-very low-density lipoprotein (VLDL) bands (Fig. 1A), suggestive of type III HLP. The results of apo E genotype with direct sequencing showed that the patient had apo E2/E2 genotype in which thymidine replaced the normally occurring cytosine at base pair 3883 (Fig. 1B). Her father and elder brother had apo E2/E3 genotype. The rest of her family and the normal control subject had apo E3/E3 genotype (data not shown).

The association of pregnancy, hypertriglycerideremia, and acute pancreatitis is well established. To our knowledge, the case described in this letter is the first case of apo E2/E2 homozygous familial type III HLP-related gestational hyperlipidemic pancreatitis.

Type III HLP is an inborn error of metabolism characterized by defective apo E, which is a ligand for the receptor-mediated uptake of chylomicron and VLDL remnants by the liver. More than 90% of type III HLP subjects are homozygous carriers of apo E2 (Arg158 → Cys), which displays less than 1% binding affinity for the cell surface lipoprotein receptors. However, less than 10% of apo E2/E2 homozygous subjects have hyperlipidemia. These observations indicate that other genetic environmental factors or concomitant diseases are necessary for expression of the hyperlipidemia in apo E2/E2 subjects. In our case, pregnancy is very likely to play the role for expression of the extremely high levels of plasma triglyceride and cholesterol.

The fish oil is well known to decrease VLDL secretion from the liver and thus lower the production of intermediate-density lipoproteins and low-density lipoprotein. A dose of 3 to 4 g n-3 fatty acids per day decreases serum triglyceride levels by around 30% to 50% in hypertriglyceridemic patients. Thus, fish oil supplement could be an effective therapy for prevention of gestational hyperlipidemic pancreatitis.

In summary, we report a pregnant patient with apo E2/E2 homozygous familial type III HLP-related hyperlipidemic pancreatitis at 14 weeks of gestation. She received total parenteral nutrition and then low-fat diet during hospitalization, continued low-fat diet and fish oil supplement in outpatient clinic, and gave birth to a healthy male infant at 39 weeks of gestation.

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To the Editor:

In patients with mild/moderate acute biliary pancreatitis (ABP), without an increase of cholestasis indices, and in the absence of a dilation of the intrahepatic and extrahepatic biliary ducts, it is useful to know if obstacles are present in the common biliary duct (CBD). They should be submitted to a magnetic resonance cholangiopancreatography (MRCP) to determine the conditions of the CBD before the cholecystectomy.

In the period January 2003 to November 2007, 35 patients with mild ABP (Glasgow score = 1) were studied; the diagnosis of ABP was made on the basis of the clinical symptoms, the laboratory data (almost twice the normal increase of the serum lipase and pancreatic amylase), and the instrumental data for the confirmation of the biliary etiology (gallstones on the abdominal ultrasonography). All the patients were submitted to an MRCP. During their stay in hospital, all the patients were submitted to cholecystectomy: 32 with a laparoscopic access (91.4%) and 3 with laparotomy access (8.5%) because of previous supramesoscopic surgical interventions.

Magnetic resonance cholangiopancreatography was diagnostic for choledocholithiasis in 10 patients (28.6%) who were submitted to an endoscopic retrograde cholangiopancreatography (ERCP)/endoscopic sphincterotomy. In all the 10 treated cases, there was radiological and endoscopic confirmation of the presence of stones/sand/sludge in the CBD with a complete clearance.

At 15, 30, and 60 days from the surgical intervention, all the patients were submitted to a clinical, biochemical, and abdominal ultrasonographic control. No patients had a relapse of the acute pancreatitis, and biochemical values of cholestasis indices and pancreatic enzymes were normal. In our case study, the sensitivity, specificity, and the positive predictive value of the MRCP in the diagnosis of choledocholithiasis were 100%.

The literature data show that a very variable range (45%–75%) of the patients with ABP are carriers of stones in the CBD.\(^1,2\) The cases with ABP include mild self-limiting forms with a transient papillary obstruction not accompanied by clinical, laboratory, and instrumental signs of cholestasis. For these mild forms of acute pancreatitis, the use of invasive procedures to explore the CBD is not advisable, although it is necessary to demonstrate the absence of stones in the CBD.

In our opinion, the need to use preoperatory or intraoperative invasive techniques for the exploration of a nondilated CBD in the course of mild ABP could present some risks. The treatment program for mild ABP, with nondilated CBD, proposed in this study, involves submitting all the patients to an MRCP before cholecystectomy, assuming that small silent gallstones may be present in the CBD. The MRCP, in addition to the definition of the morphology of the gallbladder and the pancreas, permits lithiasis of the CBD to be demonstrated with a high sensitivity (95%) and specificity (97%), and it provides an optimal representation of the biliary tree.\(^3\)

The utilization of MRCP before cholecystectomy in patients with mild/moderate ABP permitted the diagnosis of choledocholithiasis in 10 (28.6%) of 35 patients and their submission to the endoscopic removal of the stones with precision and safety (ERCP/ES); on the contrary, 71.4% (25/35) of the patients were directly submitted to cholecystectomy, avoiding ERCP/ES. In the course of mild/moderate ABP, the incidence of choledocholithiasis is about 50%.\(^1,2\) In the natural history of choledocholithiasis, about one third of the stones pass spontaneously into the duodenum within 6 weeks. The supposed number of choledocholithiasis, even silent, in patients with mild ABP remains high: so this possibility cannot be ignored in the diagnostic-therapeutic program. In our experience, MRCP seems to be the criterion-standard technique to be used in all patients with mild/moderate ABP with nonsymptomatic choledochal involvement. It permits the choice of patients not to be submitted to ERCP/ES in the absence of predictive factors of choledocholithiasis.

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