CLINICAL CASE

ABDOMINAL PAIN IN PREGNANCY: ACUTE PANCREATITIS - A CASE REPORT

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Abstract

Acute pancreatitis is a rare condition in pregnancy. The annual incidence of acute pancreatitis in pregnancy varies and is approximately 1 in 1000 to 1 in 10.000. We report a case of acute pancreatitis in a pregnant woman who came into our emergency department with complaints of lower abdominal pain, in the right upper quadrant and epigastric region, associated with vomiting. The laboratory values showed an increased level of liver enzymes, leucocytes, hyperglycemia and proteinuria. Later on, the patient became hypertensive, febrile and the admission cardiotocograph showed severe fetal bradycardia for which emergency caesarean section was made. Postoperative laboratory values showed elevated serum amylase - four times it's normal value - and a decreasing level of AST, ALT. At this moment the diagnosis of pancreatitis was established. The patient was transferred in the general surgery department, where laparoscopic cholecystectomy was done. Early diagnosis and multidisciplinary team was needed to ensure good maternal and fetal outcome.

Keywords*: Acute pancreatitis, Pregnancy, Cholecystectomy, Gallstones*

Introduction

Acute pancreatitis is a common cause of acute abdomen in pregnant women. The annual incidence of acute pancreatitis in pregnancy varies and is approximately 1 in 1000 to 1 in 10.000. More than 50% of cases in pregnancy are diagnosed in the third trimester, meaning that acute pancreatitis risk is higher with advanced pregnancy at a higher gestational age [1] .

In pregnancy acute pancreatitis is frequently associated with gallstone disease or hypertriglyceridemia [1-3] . Gallstones are the most common cause of acute pancreatitis in pregnancy, in more than 70% of cases. In the second and third trimester, due to estrogenic stimulation, the cholesterol secretion increases, compared to bile acids and phospholipids leading to supersaturation of the bile. The progesterone relaxes the muscular fibres of the gallblader and determines a slow emptying, inducing bile stasis. The large residual volume of supersaturated bile in the gallbladder leads to cholesterol crystals and eventually gallstones [2].

As a specific comorbidity, acute pancreatitis in pregnancy can be associated with HELLP syndrome or pre-eclampsia - which can lead to fetal death or preterm delivery [4] -

diabetes mellitus type 2 and other major complications.

The differential diagnosis of acute pancreatitis in pregnancy must exclude other causes of acute abdomen: acute appendicitis, cholecystitis, gallstones, urinary tract obstruction, intestinal obstruction, peptic ulcer and also pains related to the pregnancy: uterine contractions, pre-eclampsia, HELLP syndrome, uterine rupture, polyhidramnios [6-8] .

Diagnostic criteria for acute pancreatitis includes elevated serum amylase or lipase levels over 3 times normal values, elevated levels of the liver enzymes and triglycerids.

Pancreatitis can be treated conservatively with bowel rest, rebalancing the electrolyte system, pain medication [1]. Another method of treatment is laparoscopic cholecystectomy when gallstones can be at the origin of the disease. Considering the difficulities induced by the pregnant uterus in advanced pregnancy surgery is not always feasible. In such situations endoscopic sphincterotomy or stenting may prevent recurrence and postpone cholecystectomy until after delivery [9] .

Case presentation

A 21-year-old gravida 2 para 1,was reffered to our clinic at 38 weeks of gestation with complaints of lower abdominal pain, in the right upper quadrant and epigastric region, associated with vomiting (6 episodes in 24 hours). At the clinical examination were noticed altered general condition, a blood pressure of 130/70 mmHg, a heart rate of 80/min, T= 36.6°C. The abdomen was enlarged by the distended uterus with a single fetus and the lower abdomen showedn mildly tenderness without other specific signs.

The medical history revealed: menarche occurred at 13 years, regular menstrual cycles last menstrual period: 19.11.2015, 1 misscariage , appendectomy in childhood, gastroesophageal reflux disease.

Laboratory blood tests indicated elevated levels of AST (113.29 U/L), ALT (171.25 U/L), slightly elevated total bilirubinemia (1.444 mg/dl), high blood glucose levels (147.0 mg%), mild leucocytosis (14.5x103/mmc) and proteinuria (1+).

Two hours after admittance, blood pressure values started to increse (150/65 mmHg) with slow response at 135-145/65 mmHg, after alphametyldopa (Dopegyt) oral administration. The patient had also fever (38.2°C) which decreased with difficulty after antipyretics. Repeated laboratory tests indicated: AST (111.04 U/L), ALT (183.81 U/L), glucose (158.4 mg%), HbA1c (4.85%), leucocytes (9.9x103/mmc), urinary ketones (2+).

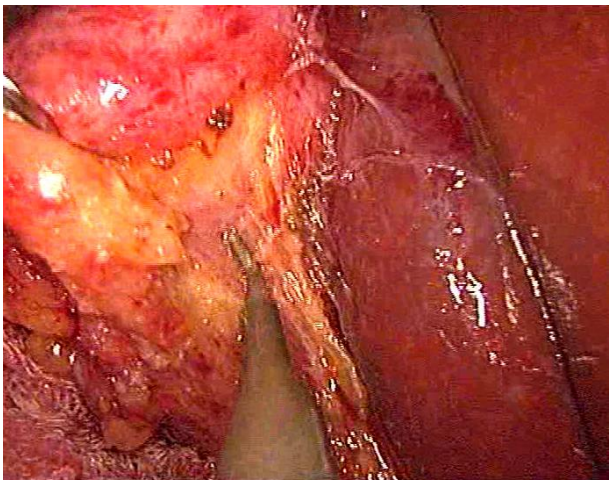

Figure 1 - Gallblader

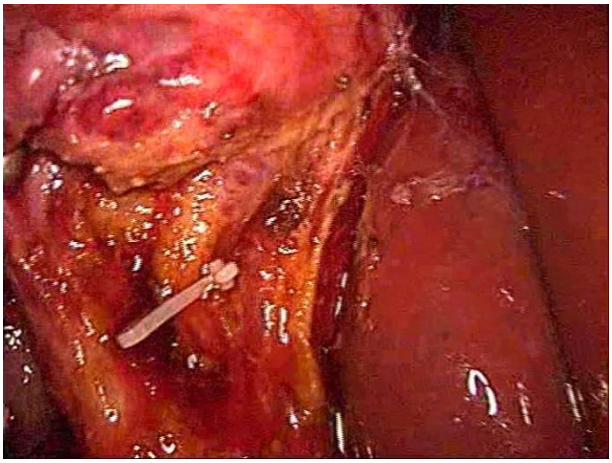

Figure 2 - Cistyc artery

The patient had continuous CTG monitoring and at about 12 hours from the admittance the fetal heart rate exhibited severe bradycardia without any regular uterine contraction. Emergency caesarean section was performed for fetal distress and the new born was a healthy male baby of 3000 g with a Apgar Index of 8. Intra-operative 300 ml free clear fluid in the abdomen was discovered, which was sampled and sent to the laboratory. In

postoperative period, the patient received antibiotic and anticoagulant treatment, her electrolyte system was rebalanced and her general condition has improved. Meanwhile, the levels of liver enzymes decreased, but the amylase levels increased up to 10099 UI/L - over 4 times normal values -,C reactive protein raised up to 16 u. The biochemistry analysis of the abdominal fluid demonstrated high amylase level over 10.000U/l establishing the final diagnosis of acute pancreatitis. The patient was referred to the general surgery department, where considering the gallstones presence the management was decided in favor of laparoscopic cholecystectomy (Figures 1, 2, 3). The procedure was performed uneventfully and the patient s evolution improved with normalisation of the blood test and general improvement. She was discharged 5 days after surgery and had favorable evolution since.

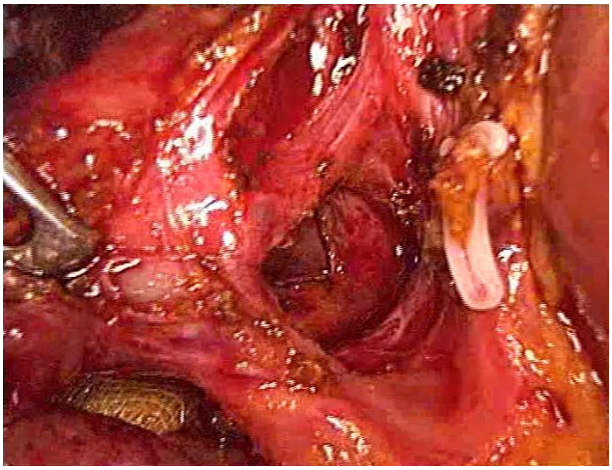

Figure 3 - Calot Trigon

Discussions

Acute pancreatitis is defined by the presence of supraombilical abdominal pain associated with serum lipase levels 3 fold higher than the normal upper limit . In our case, the increase of amylase levels up to 10099 UI/L and the biochemical tests of the abdominal fluid, which showed an amylase level of over 10.000U/L, were consistent for the diagnosis of pancreatitis.

The 38 weeks pregnant patient complained about abdominal pain, in the right upper quadrant and epigastric region, associated with vomiting, suggesting cholecystitis although urinary tract obstruction could be taken into account also. These diagnoses were eliminated by the normal urinary sediment, negative urinary culture and no initial ultrasound signs of gallstones. Nausea, vomiting and pain in the upper abdomen associated with elevated blood pressure (in our case 150/65 mmHg) can be indicative for pre-eclampsia. No medical history indicated any risk factors for this pathology and methyldopa administration the patient's blood pressure decreased at 135-145/65 mmHg. HELLP syndrome could be also considered because of the elevated liver enzymes, increased levels of leucocytes were (14.5x103/mmc) but the absence of hemolysis and the normal platelet count excluded that diagnosis.

Severe acute pancreatitis can cause a decrease in placental perfusion, which leads to fetal distress and abnormal contractions. In our case, CTG at admission was normal but worsened with the progression of the pancreatic condition showing severe fetal bradycardia, partly responsible at fetal resuscitation methods, which led to cesarean section. Termination of the pregnancy must be considered if there is severe maternal morbidity and if gestation is close to term [11] .

Multi-disciplinary management involving an obstetrician and a surgeon ensures positive outcomes. Indications for a surgical intervention remain the same as for a non-pregnant patient. Although laparoscopy is not the first line treatment in our case the diagnosis of the gallstones justified surgery.

In the past, laparoscopic cholecystectomy was considered contraindicated during pregnancy [12] . The procedure was associated with the fear of damaging the gravid uterus at insertion of Veress needle and working trocars, the enlarged uterus being the reason of a difficult surgical tehnique. Also, the increased intraabdominal pressure from insufflation and fetal CO2 absorption lead to decreasing uterine blood flow and fetal academia [13] . The advantages of laparoscopy during pregnancy are similar to those non-pregnant patients: less postoperative pain, less postoperative bowel complications, reduced hospitalization, decreased narcotic use and faster recovery [14] .

Recent views, state that when surgical intervention is needed, laparoscopic cholecystectomy can be performed in any

trimester [15]; but it is preferred in the second trimester because organogenesis is complete and spontaneous abortions are less frequent than in the first trimester [16] .

Conclusions

Acute pancreatitis is not a frequent condition in pregnancy. The most common cause of acute pancreatitis in pregnancy is cholecystitis, in a majority of cases.

The differential diagnosis can be made with other severe conditions such as: pre-eclampsia, HELLP syndrome, that can lead to premature birth and intrauterine fetal death.

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