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Correspondence

Hemorrhagic pancreatic cyst during third trimester of pregnancy: A case-report

Dear Editors,

We would like to report the case of a pregnant woman, 34 weeks gestation (WG) treated for a hemorrhagic pancreatic cyst by splenic artery erosion.

This 33-year-old woman (gravida 6 para 3) had no particular health problem. She went to the hospital several times between 9 and 20 WG for epigastric pain. At 23 WG, she was medically treated for an acute cholecystitis (biological inflammatory syndrome with an increase of the lipase at 161 UI/L, epigastric pain, vomiting and sludge aspect of the gall bladder with ultrasonography).

The patient went to the hospital again at 34 WG for a sudden transfixing pain of the right hypochondrium associated with an inflammatory syndrome (Leukocytes: 16 400/mm^3 and C-Reactive Protein (CRP) at 15 mg/L). The liver function tests were normal and the lipase was equal to 1 905 IU/L (5 fold the normal value). The patient was transferred in another hospital the day after with the diagnosis of acute pancreatitis. When she arrived, the hemodynamic constants were normal. The fetal heart rate monitoring and the ultrasound showed a normal fetal vitality. The abdominal ultrasound found a sludge aspect in the gall bladder. The lipase was controlled at 35 IU/L, without hepatic cytolysis or cholestasis sign, with an increase of the inflammatory syndrome. She was fasted and treated with anti-nauseas and analgesics, such as morphine. The cholangio-MRI found a voluminous hemorrhagic cyst in the caudal portion of the pancreas, unilocular with regular border which measured 73 mm of diameter. The hemorrhagic remodeling was recent and the aspect was in favor of a mucinous cystadenoma or a pancreatic pseudocyst due to an acute lithiasic pancreatitis (Fig. 1).

The patient still felt pain with an increase of the inflammatory syndrome (leukocytes: 21 800/mm^3 and CRP: 268 mg/L), without perturbation of liver function. Fetal pulmonary maturation by corticotherapy was performed. An abdominal computerized tomography (CT) scan confirmed a 82 mm cystic formation in the caudal portion of the pancreas, heterogeneous, spontaneously dense, in favor of a pseudocyst pushing back the splenic artery, which appeared eroded on contact and partially thrombosed. There was also a splenomegaly with several areas of peripheral splenic infarction. Faced with the hemorrhagic risk, an angiography was realized, it confirmed an active bleeding coming from the splenic artery associated with a thrombosis in contact with the cyst and the presence of vascular bypass pathways. An embolization of the cyst nutrient artery was performed (Fig. 2).

Despite of the succeeded embolization, the hemorrhagic risk persisted and a caesarean section was done in emergency under general anesthesia. A 2 380 g female infant was delivered, with Apgar scores recorded as 0, 5, 7 at 1, 3 and 5 min respectively. In the postnatal ward, a preventive anticoagulation was administrated and a treatment by aspirin was also given due to a thrombocytosis at 1 900 000 /mm^3.

The control abdominal CT scan done 7 days after delivery visualized the pancreatic cyst without sign of active hemorrhage associated with a splenic infarct. The patient was vaccinated against pneumococcus, meningococcus and *Haemophilus influenzae* in account of the functional asplenism. Oracillin antibiotic therapy was also initiated with a curative anticoagulation. The postpartum of the patient was simple.

Eight months after the treatment, the pancreatic cyst measured 30 mm on the control CT scan, without cholelithiasis visualized. The endoscopic ultrasound was normal. This follow-up confirmed the regression of the pancreatic pseudocyst.

Discussion

Pancreatic pseudocysts represent 80% of benign pancreatic lesions [1,2], their complications can be varied (e.g. infectious, hemorrhagic, compressive, cholestasis). They can appear after an acute pancreatitis with different cause but also associated with a chronic pancreatitis. Different treatments are possible: medical supervision, symptomatic treatment, percutaneous or endoscopic drainage or a surgery such as cystogastrostomy, cystojejunostomy or sometimes pancreatectomy [1].

The occurrence of a pancreatic cyst during pregnancy is rare and the hemorrhagic complication even more. Their treatment is often surgical after a frequent failure of embolization. A delay in the diagnosis of pancreatic pseudocysts during pregnancy is frequent, the symptomatology is not very specific during pregnancy and often trivialized (e.g. abdominal pain, vomiting). Moreover, the ultrasound of the pancreas is difficult due to the uterine volume. Besides, the CT scans during pregnancy are not carried out in first intention, although they allow the diagnosis easily.

Only 15 cases of pancreatic pseudocysts during pregnancy have been reported, with various treatments described. They measured between 6 and 15 cm of diameter except for one case with a pseudocyst measured at 2 cm but it was painful due to a gastric compression resolved by an endoscopic drainage [3]. During pregnancy the pancreatic cysts have been supervised in 53% cases (n = 8), a percutaneous or endoscopic drainage have been performed in 33% cases (n = 5) and 7% patient (n = 1) had a surgery in emergency because of the cyst rupture. The medical teams preferably choose non-invasive treatment during pregnancy, unlike the post-partum period when the patients have been treated by surgical resection in 27% cases (n = 4), kysto-gastrostomy in 13% cases (n = 2), kysto-jejunostomy in also 13% cases (n = 2). With 13% patients (n = 2), a percutaneous drainage have been realized and 13% others (n = 2) have been a spontaneous cyst

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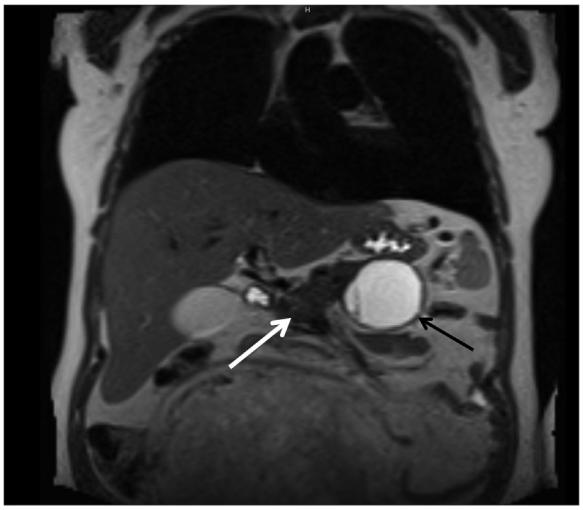

Fig. 1. Abdominal coronal T3 sequence MRI: Pancreas (white arrow) and the pseudocyst in the caudal portion (black arrow).

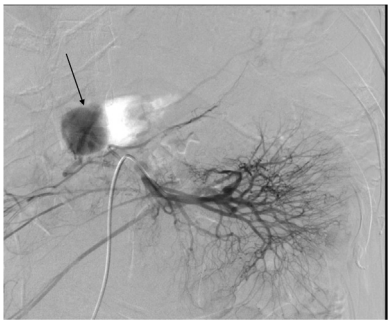

Fig. 2. Angiography during the pancreatic cyst embolization. The black arrow shows the hemorrhagic component of the cyst.

regression [3,4]. A prophylactic caesarean section was preferred in 27% cases (n = 4) for avoiding expulsive efforts or uterine contractions that could lead to a rupture of the cyst. A vaginal delivery took place in 67% cases (n = 10), mostly in articles published before 1992. Just one another article describe the case of a hemorrhagic pancreatic pseudocyst during pregnancy. This patient presented two pancreatic pseudocysts (of 2 and 7 cm) and was medically supervised during her pregnancy. She had a normal vaginal delivery after an induction of labour. Then, 5 h after the delivery, she complained of a sudden epigastric pain and collapsed. Despite all resuscitative efforts, she died of a hemoperitoneum caused by the rupture of the cyst that had eroded into the pancreatic artery [5]. The complications of the pseudocyst can be lethal in case of hemorrhagic rupture.

Pancreatic pseudocysts are rare during pregnancy and varied concerning their risks and possible complications, therefore, their treatments are not well standardized as regards as the 15 cases described. Out of the pregnancy period, embolization is used in one-third of the hemorrhagic cysts in the literature.

Our case is the only one reporting a success of embolization with a favorable way for the patient and her fetus.

Authors statement

All authors contributed equally to this work, approved the final version of the manuscript and its submission. They declare no conflict of interest or any source of funding.

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