

Acute Pancreatitis During Pregnancy in Two Cases

Kazım GEZGİNÇ, Ali ACAR, S. Tülin GEZGİNÇ, Ayfer BALA, Faruk AKSOY, Cemalettin AKYÜREK
Konya-Turkey

In this report two cases who had acute pancreatitis during pregnancy is presented. The first case was admitted to our clinic for acute pancreatitis developing in the 22nd week of pregnancy. The second case was in the 34th week of pregnancy at the admission. In both cases the reason of acute pancreatitis was hypertriglyceridemia. After all tests we have done we detected familial type 4 hypertriglyceridemia. With medical treatment the general conditions of our patients got better. After the therapy no mortalities and morbidities were seen neither in mothers nor in babies. In cases who have history of familial hypertriglyceridemia acute pancreatitis during pregnancy may be seen and these cases may be treated with medical therapy successfully.
(*Gynecol Obstet Reprod Med* 2004; 10:210-212)

Key Words: Acute pancreatitis, Familial hypertriglyceridemia, Pregnancy

Acute pancreatitis is an inflammatory pathology that includes edema of pancreas, otolysis, necrosis and in some cases may be followed by hemorrhage.¹

The frequency of acute pancreatitis during pregnancy is from 1/1000 to 1/11000 in pregnant women. However the highest frequency is seemed to be in the third trimester and in postpartum period. During pregnancy the most common reason of acute pancreatitis is cholelithiasis. The other reasons are hypertriglyceridemia, drugs (like thiazid diuretics, sulphonamids, tetracyclins, azothioprine, furosemids, prepartes of estrogen, steroids, etc) and the idiopathic form is also seen but the alcoholic pancreatitis incidence during pregnancy is quite lower.^{2,3}

Case Report

Case 1

In May 2001, a 23 year old patient who was complaining of lack of appetite, nausea, vomit and pain that seemed to start from the epigastric area and spread to the upper parts abdomen and to the shoulders, was admitted to Selçuk University, Faculty of Meram Medicine. This patient had had two pregnancies, one labor and had no children alive. In the time of investigation she was in the 22nd week of pregnancy. According to the history gotten from the patient herself, her mother and father were cousin of first degree. Her mother three years ago had had an attack of acute pancreatitis relevant to hypertriglyceridemia and because of that she had been o-

perated on pancreas. Her sister complained of insisting abdominal pain. At the first pregnancy our patient had had an attack of pancreatitis in the 8th month of pregnancy and meanwhile the fetus had died. According to the physical examination findings the patient had arterial blood pressure 100/60 mmHg, Pulse rate 82/min. and the temperature 37.3°C.

In the abdominal examination in all abdominal areas tenderness was present especially in the epigastric area. There was no defense and rebound. In the pelvic examination the external cervical os was closed.

According to the ultrasonographic examination findings the fetus was 22 weeks old, and the fetal measurements were proper to the week of pregnancy, amniotic fluid's level was normal. There were no abnormalities in the fetal appearance.

According to the laboratory tests' findings the levels were as these: WBC=18000 k/ul, RBC=3.58 10⁶ e g/ul, Hgb=14.1 gr/dl, Hct=35.6%, PLT=167 ej/ul, sedimentation rate=88 mm/H, Glucose=135 mg/dl, Total cholesterol=409 mg/dl, Triglycerids=1583 mg/dl, amylase=134 u/l, lipase=190 u/l, SGOT=50 u/l, SGPT=48 u/l, LDH=484 u/l, Calcium=11.6 mg/dl. Serum amylase/creatinine clearance=5%. In the electrophoresis of lipoproteins there was an increase only in the pre- β band.

In the laboratory examination of our patient's relatives (mother, father and sister) high levels of triglycerid were detected.

In "Lactesan test" plasma was seen to be in chillous property. During abdominal ultrasonographic examination pancreas was seemed to have a little edema and in peripancreatic area there was minimal free fluid.

Until the delivery the patient was given a diet free of fat. Pancreatin 170 mg+dimetilpolisiklosan 80 mgr three times a day (Pankreoflat draje, Dr. F. Frik, İstanbul), multivitamins and minerals once a day (Supradyn draje, Roche, İstanbul). In 15 days the general conditions of the patient got better.

Until the 34th week of the pregnancy we checked the levels of blood lipids once in two weeks and did ultrasonographic examination once in a month. After the 34th week of the pregnancy, until the term the patient was kept in control

Selçuk University Faculty of Meram Medicine Depertmant of Obstet and Gynecol, Konya-Turkey

Address of Correspondence Kazım Gezginç

Selçuk University

Faculty of Meram Medicine

Depertmant of Obstet and Gynecol

Konya-Turkey

Submitted for Publication: 13.06.2003

Accepted for Publication: 22.09.2003

with weekly non-stress tests (NST), ultrasonographic examinations once in two weeks and we controlled the levels of blood lipids weekly.

The patient came to our clinic for spontaneous labor pain and she had a baby weighed 2900 gr by spontaneous vaginal delivery. The Apgar score of the baby at the first minute was eight, at the fifth minute it was nine.

Case 2

In April 2002, a 34 year old patient who was complaining of lack of appetite, nausea, vomit and pain that seemed to start from the epigastric area and spread to the upper parts abdomen and to the shoulders, was admitted to Selçuk University, Faculty of Meram Medicine.

This patient had had three pregnancies, three labors and had one child alive. She was in the 34th week of pregnancy at the admission. According to the history gotten from the patient herself, her mother and father were not relatives. Although the levels of blood lipids were high in both her mother and brother without clinical symptoms. At the first and second pregnancy our patient in the 7th month of pregnancy had had an attack of pancreatitis and meanwhile the fetuses have died. According to the physical examination findings the patient had arterial blood pressure 90/60 mmHg, Pulse rate 76/min. and the temperature; 37°C.

In the abdominal examination in all abdominal areas tenderness was present especially in the epigastric area. There was no defense and rebound. In the pelvic examination the external cervical os was closed.

According to the ultrasonographic examination findings the fetus was 34 weeks old, and the fetal measurements were proper to the time of pregnancy, amniotic fluid's level was normal. There were no abnormalities in the fetal appearance.

According to the laboratory tests' findings the levels were as these: WBC=11400 k/ul, RBC=5.38 10⁶ e g/ul, Hgb=16.7 gr/dl, Hct=42.8%, PLT=103 ej/ul, sedimentation rate=76 mm/H, Glucose=122 mg/dl, Total cholesterol=151 mg/dl, Triglycerids=421 mg/dl, amylase=479 u/l, lipase=1343 u/l, SGOT=49 u/l, SGPT=66 u/l, LDH=566 u/l, Calcium=12.0 mg/dl. Serum amylase/creatinine clearance=6%. In the electrophoresis of lipoproteins there was an increase only in the pre-β band. In the laboratory examination of our patient's relatives (mother and brother) high levels of triglycerid were detected.

In "Lactes test" plasma was seen to be in chylous property. During abdominal ultrasonographic examination pancreas was seemed to have a little edema and in peripancreatic area there was minimal free fluid.

Until the delivery the patient was given a diet free of fat. Pancreatin 170 mg+dimetilpolisiklosan 80 mgr three times a day (Pankreoflat draje, Dr.F.Frik İstanbul), multivitamins and minerals once a day (Supradyn draje, Roche, İstanbul) after the plasmapheresis. In 10 days the general conditions of the patient got better.

Until the 36th week of the pregnancy, the patient was kept in control with weekly NST, ultrasonographic examinations once in two weeks and we checked the levels of blood lipids weekly.

At the 36th week of pregnancy the patient was exposed to cesarean section because the beginning of spontaneous labor pain and she had an history of a cesarean section done before. She had a baby weighed 3100 gr with cesarean section. The Apgar score of the baby in the first minute was nine, in the fifth minute it was ten.

Discussion

Acute pancreatitis and pregnancy is a rare and serious combination that poses difficult diagnostic and therapeutic problems. Acute pancreatitis during pregnancy is seemed to be in an average of 1/1000-1/11000. Because of the conditions having similar clinical symptoms we have to distinguish acute pancreatitis from those, including cholecystitis, peptic ulcer, intestinal obstruction or perforation, preeclampsia, appendicitis, myocardial infarction and dissection of aorta.^{1,4}

The aetiology of acute pancreatitis includes diseases like cholelithiasis, hyperparathyroidism, hypertriglyceridemia, using of alcohol and drugs (thiazid diuretics, tetracyclin, azathioprine, furosemid, preparates of estrogen, steroids, sulphoamids etc.).¹

According to the electrophoresis of lipoproteins "Lactes test" and lipid levels in our patients they were detected to have type 4 familial hypertriglyceridemia and this was thought to be the reason of acute pancreatitis.

In the patients with acute pancreatitis the most important symptoms are pain (that is located in the upper area of abdomen and sometimes it spreads from the epigastric area to the shoulders), nausea, vomit and distension.

In mild cases during the physical examinations we can detect tenderness in epigastrium and other upper areas of abdomen but there are no signs of irritation of periton.

However in severe cases in addition to the tenderness in epigastrium, we can find signs of peritoneal irritation, ileus, high fever, confusion, tachycardia and in very serious cases signs of hypovolemic shock may be seen. According to the laboratory findings we found hyperglycemia, hypocalcemia, leucocytosis, increased levels of liver enzymes relative increases of hemoglobin and hct related to haemoconcentration, increases in BUN levels, decreases in PaO₂ levels and progressive increases of levels of amylase and lipase in serum.¹

The increase in the levels of amylase in serum reaches the top value in 6-12 hours after the beginning of the event.² However there is no correlation between the high levels of the amylase and severity of the disease.¹ To make the differential diagnosis of acute pancreatitis we use amylase creatinin clearance.² In normal people this ratio ranges from 1 to 4 percent but in cases of acute pancreatitis the rate increases. In general during pregnancy this ratio increases. At the end of 1st trimester this ratio is 2.3 percent, in term it changes to 2.8%.⁵

Lipase level in serum are also increased, but lipase level keep being high after the decrease of amylase level. That is the reason why the lipase level are used in late period of diagnosis.¹

In our patients we found symptoms like lack of appetite, nausea, vomit and pain which started from epigastrium and spreaded to the upper abdominal areas and to the shoulders.

According to the physical examination findings the patients had tenderness in epigastrium and subfebril fever. According to the electrophoresis of lipoproteins "Lactesan test" and lipid levels in our patients they were detected to have type 4 familial hypertriglyceridemia and this was thought to be the reason of acute pancreatitis. In the diagnosis of acute pancreatitis imaging methods like ultrasonography, CT, MRI are used.

During pregnancy the most suitable method is USG. According to the abdominal ultrasonography pancreas had a little edema and there was minimal free fluid in peripancreatic area in both cases.⁶

The management of acute pancreatitis is based on the use of symptomatic drugs, a low fat diet alternated to the parenteral nutrition when triglycerides levels are more than 28 mmol/L. Surgical therapy, used only in case of obstructive pathology of biliary tract, is optimally collected in the third trimester or immediately after postpartum.⁷

During pregnancy the first choice of treatment is medical and after that treatment 90% of the patients get better.³ The medical treatment regimen used in pregnant cases is the same as that is used in unpregnant ones.⁶ But in some cases operation may be necessary. Those patients who has no benefit from medical treatment, diseases of biliary tract, formation of abscess, rapidly enlarging pseudocyst and hemorrhagy which can not be kept under control are included in the group of patients requiring surgical treatment.^{3,8}

The treatment of acute pancreatitis is based on supportive approach. The medical treatment of acute pancreatitis includes replacement of volume, nasal oxygen, proper analgesics, nasogastric decompression, replacement of calcium and magnesium and during hypertriglyceridemia, a diet free of fat, total parenteral nutrition, heparin and apheresis of lipoprotein.⁵

In our patients we also used a treatment regimen similar to this. During the acute period replacement of intravenous fluid, nasal oxygen breathing, nasogastric decompression and plasmapheresis was performed. After the acute period the patients were given a diet free of fat, Pankreatin 170 mg+Dimetilpolisiklosan 80 mgr three times a day multivitamins and minerals once a day.

The severity of pancreatitis showed regression, it was often limited and the patient got better with medical treatment. The rate of maternal mortality is 5-15%.² However Wilkinson has reported it as 37%. There is no correlation between

perinatal mortality and the severity of disease of mother. Perinatal mortality in mild cases is the same as healthy pregnancies but in severe cases it increases to 40%.⁸

Chang et al.⁹ showed good maternal outcome following appropriate treatment and fetal prognosis was less favorable and was most often associated with hyperlipidemia. Fetal monitoring is essential during the management of pancreatitis in pregnancy. With medical treatment the general conditions of our patients got better. After the therapy no mortalities and morbidities were seen neither in mothers nor in babies.

Conclusion

Pregnant patients who have hypertriglyceridemia which can not be kept under control can have an attack of acute pancreatitis. Especially in those cases who have a history of familial dyslipoproteinemia we should measure the levels of triglycerids in the plasma and all pregnants should be checked frequently.

Acute pancreatitis must be kept in mind when evaluating patients presenting with abdominal pain. If the pregnant patient has even only one of the risk factors of acute pancreatitis and she complains of a pain that is continuous and located in the epigastrium we should immediately investigate her for acute pancreatitis.

References

1. Çalungu S, Gündoğdu S, Paker T, et al. Pankreas. *Cecil Essentials of Medicine*, 3. Baskı, Yüce yayınları, İstanbul 1995:313-5.
2. Malatyahoğlu E, Kökçü A. Gebelikte Akut Karın. *Sendrom Aralık* 1997:58-70.
3. Özenç A, Koloğlu M. Gebelik ve Cerrahi Hastalıklar. Kişnişci HA, Gökşin E, Durukan T, Üstay K, Ayhan A, Gürkan T, Önderoğlu SL *Temel Kadın Hastalıkları ve Doğum Bilgisi*, Güneş kitabevi, Ankara 1996:412-3.
4. El Mansari O, Zentar A, Mejdane A, et al. Acute pancreatitis in the post-partum period. *Apropos of 3 cases Chir (Paris)*. 1996; 133:127-31.
5. Fields K, Barkin JS. "Pancreatic Disease" in Buttino L, Elkayam U, Evans MI, Galbraith RM, Gall SA, Sibai BM, Gleicher "Principles & Practice of Medical Therapy in Pregnancy" Third Edition, Appleton&Lange Stamford 1998:1142-6.
6. Coyne BA. Obstetric and surgical complications of pregnancy. In Brown JS, Crombleholme WR. *Handbook of Gynecology Obstetrics*. 1.Edt, Connecticut, Appleton Lange 1993:363-79.
7. Scollo P, Licitra G. Acute pancreatitis and pregnancy. *Minerva Ginecol*. 1993; 45:643-6.
8. Boothby R. Acute abdominal pain in pregnancy. Benrubi GI *Obstetric and Gynecologic Emergencies*. Philadelphia, JB Lippincott, 1994:25.
9. Chang CC, Hsieh YY, Tsai HD, Yang TC, Yeh LS, Hsu TY. Acute pancreatitis in pregnancy. *Zhonghua Yi Xue Za Zhi (Taipei)*. 1998; 61:85-92.