DEVELOPING PERITONITIS AFTER PERFORATED APPENDICITIS, PERITONEAL ABSCESS AND PRETERM BIRTH: 2 CASE REPORT

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SUMMARY

Although appendicitis is the most common non-obstetric surgical problem in pregnancy, it is difficult to diagnose. Because, clinic examinations, laboratory findings are different and all of the radiologic imaging techniques can not be used in pregnancy. In order to this, complications of appendicitis may occur. One of the most important complications of the appendicitis is perforated appendicitis. We reported two pregnant women who operated in the third trimester for perforated appendicitis and had diffuse peritonitis and peritoneal abscess after surgery. In pregnancy, preterm birth rate is higher after perforated appendicitis. Difficulties in diagnosis make appendicitis more complicated with pregnancy and fetal outcome become worse.

Key words: *acute appendicitis, perforated appendicitis, peritoneal abscess, preterm birth*

Journal of Turkish Society of Obstetrics and Gynecology, (J Turk Soc Obstet Gynecol), *2012; Vol: 9 Issue: 2 Pages: 120- 3*

PERFORE APANDİSİT SONRASI GELİŞEN PERİTONİT, PERİTONİAL ABSE VE ERKEN DOĞUM: 2 OLGU SUNUMU

ÖZET

Apandisit, gebelikte en sık rastlanılan obstetrik dışı cerrahi problem olmasına rağmen gebelikte tanı koymak zorlaşır. Gebelikte gerek klinik bulguların, gerekse laboratuar bulgularının farklı olması ve radyolojik görüntüleme yöntemlerinin daha kısıtlı kullanılması tanı koymayı zorlaştırır ve geciktirir. Bu nedenle apandisitin komplikasyonları ortaya çıkabilir. Apandisitin en önemli komplikasyonlarından biri perfore apandisittir. Makalemizde,3. trimesterde perfore apandisit nedeniyle opere olan ve ameliyat sonrası dönemde kliniğimizde erken doğum tehtidi tanıları ile takip edilirken peritonit ve yaygın peritonial abse saptanan ve erken doğum yapan 2 olgu sunulacaktır. Gebelikte perfore apandisit sonrası erken doğum riski yüksektir. Tanı koymadaki zorluklar, apandisitle birlikte gebeliği de komplike hale getirmekte, hem anne hem de fetus açısından olumsuz sonuçlar doğurmaktadır.

Anahtar kelimeler: *akut apandisit, erken doğum, perfore apandisit, peritonial abse*

Türk Jinekoloji ve Obstetrik Derneği Dergisi, (J Turk Soc Obstet Gynecol), *2012; Cilt: 9 Sayı: 2 Sayfa: 120- 3*

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Received: 14 September 2010, revised: 12 February 2011, accepted: 13 June 2011, online publication: 21 June 2011

DOI ID: 10.5505/tjod.2012.46873

INTRODUCTION

Acute appendicitis is the most common operation except obstetrical indications in pregnancy. During pregnancy its incidence is constant and %0,1-0,2[1-3]. Also it is the most common surgical problem causing fetal death when obstetrical reasons are excluded[4,5]. The complications of acute appendicitis are increased if diagnosis is delayed and it gets more complicated when pregnancy is added. The diagnosis becomes harder because of the physiological changes of the pregnancy. The complications like perforated appendicitis threaten the mothers' life and also cause fetal deaths by increasing preterm births and preterm birth threats.

CASE REPORT 1

The 29-30 weeks G1P0 patient applied to our clinic with right lower quadrant pain after she had been operated at our General Surgery Department 6 days ago with the diagnosis of perforated appendicitis. Her initial blood pressure was 100/70 mmHg, heart rate was 96 per minutes; body temperature was 37 Celsius degrees at application. Her general condition was well and there was no consciousness problem at her physical examination. There was no acute abdomen evidence during her abdominal palpation. The appearance of the appendectomy scar was normal. 1cm cervical dilatation and %30-40 cervical effacement are determined at gynecological examination. The pouch was intact. No active bleeding and amniotic fluid arrival detected at speculum examination. The non-stress test was reactive but it also showed uterine contractions in every 5 minutes. The obstetrical ultrasound revealed breech presentation fetus with normal measurements concordant to gestational age. The abdominal ultrasound revealed a 4x2,5 cm hypoechogenic mass at right iliac fossa which is thought to be a fluid collection and the bowel wall was thickened and its lumen was dilated around this mass, the mesenteric echogenicity was increased and it seemed inflamed. Laboratory tests showed WBC: 29,050x10^3/mm^3, Platelets: 514,000x10^3/mm^3 and CRP: 19,75 mg/dl.

Intravenous ritodrin treatment was applied because of preterm birth threat. Steroid treatment was added for fetal lung maturation. Intravenous MgSO4 treatment was required because of persistent uterine contractions. Intravenous treatment of seftriaxon as an antibiotheraphy was applied and CRP levels monitorised day by day as 29,39 mg/dl, 25,5 mg/dl, 9,32 mg/dl respectively. Her body temperature was normal and no arise was detected during treatment. But her uterine contractions fell to every 3 minutes and labor was started in spite of double tocolysis in the fourth day of application. Cesarean section was preferred because of breech presentation and 1560gr baby girl was delivered. During operation a wide spread peritoneal abscess in the abdomen was drained, adhesions were removed. The abdomen was closed after abdominal washing drainage tube was placed. She was transferred to our anesthesia intensive care unit for observation after operation. Intravenous seftriaxon and intravenous metronidasole treatment was given. The washing drainage tube was taken out after serous fluid arrival at the end of second day of surgery. Enterobacterium feacium was proliferated in the sample of abdominal fluid. During her follow-up in the general surgery department, CRP and WBC fell down, no fever was detected and her general condition was normal, so she was discharged. The baby's 1st minute APGAR score was 5, and 5th minute APGAR score was 9. She did not need mechanical ventilation but she was transferred to neonatal intensive care unit for observation and discharged after 12 days.

CASE REPORT 2

33-34 weeks G1P0 patient who was operated at another center 10 days ago with the diagnosis of perforated appendicitis, applied to our clinic with the complaint of abdominal pain and fever. At application her blood pressure 120/80 mmHg, heart rate was 105 per minutes and her body temperature was 38,5 Celsius degrees. Because of fatty tissue necrosis, fluid discharge was detected at her appendectomy area and the scar walls were partially separated. There was general tenderness in the abdomen but no other acute abdomen evidence. 3cm cervical dilatation and %60-70 cervical effacement was revealed at gynecological examination. No bleeding and amniotic fluid arrival was detected at speculum examination. The fetal cardiotocography test was reactive but also showed uterine contractions in every 7 minutes. Obstetrical ultrasound showed that fetal

measurements were concordant with 31-32 gestational weeks. The abdominal ultrasound revealed bilaterally Grade 1-2 hydronephrosis and gall bladder mud and no free fluid in the abdomen except right lower quadrant. The initial laboratory results were CRP: 22,38 mg/dl WBC: 26860x10^3/mm^3, platelets: 729000x10^3/mm^3, Hemoglobin level: 7,5 g/dl, Hemotocrite: %24,8. E.coli was proliferated at the swab sample taken from the wound tissue. Intravenous seftriaxon and intravenous metronidasol treatment was applied. Intravenous MgSO4 treatment was applied but because of persistent uterine contractions intravenous ritodrine treatment was added. 2 units of erythrocyte suspension were administrated for anemia. On the second day of the application her body temperature was fallen down and never raised again. On the third day of the application her uterine contractions started again and spontaneous clear amniotic fluid arrival was detected. In spite of double tocolytic treatment the uterine contractions persisted; because of this, the tocolytic therapy was cancelled and spontaneous labor was observed. Cesarean section was performed because of regular uterine contractions in every 2-3 minutes during 3-4 hours which did not cause progress in cervical dilatation and effacement. 1940 grams baby girl was delivered. The parietal peritoneum was highly edematous and thick, pseudomembranes and fluid collection at appendix site were observed. A general surgeon was also joined to the operation and dissected the area and a washing drainage tube was placed to abdomen. Abdominal washing was administrated until serous arrival was detected on the second day of the operation and drain tube was taken out. The patient was discharged after 12 days from the operation with well general condition, normal laboratory findings and normal body temperature. The baby did not require neonatal intensive care unit because she was able to be fed orally and her general condition was well. She was discharged with her mother.

DISCUSSION

Acute appendicitis is the most common operation except obstetrical indications in pregnancy. During pregnancy to diagnose acute appendicitis becomes harder or delays. According to some studies, appendix is observed normally in the %13-36 of all operations performed in 2nd -3rd trimester[6-8]. The most important reason that makes the diagnosis harder during pregnancy is the growth of the uterus which fills the pelvis and makes other pelvic organs move. Some clinical evidences like pain locate atypically because of appendix's movement. The pain which begins around the umbilicus and then locates at the right low quadrant may not be seen during pregnancy or the pain can be thought to be originated from pregnancy. The laboratory findings also differ in pregnancy. For example, as a physiological change of pregnancy, WBC increases. Radiological tests can be used limitedly during pregnancy. The most useful method is ultrasonography among pregnancy. There are some evidences help clinician to diagnose like; periappendicial free fluid, thickened and edematous appendix wall and enlarged appendix lumen. But some studies showed that the sensitivity of ultrasound to make diagnosis is %40 at further pregnancy weeks[9]. Computerized tomography is not preferred during pregnancy. All these problems delay the diagnosis and may make it more complicated. Perforated appendicitis is one of the most mortal and important complication of the acute appendicitis. The perforation rates significantly increases after 24 hours from the beginning of the symptoms[9,10]. One study indicated a relation between perforation rates and further pregnancy weeks and also the time between the beginning of the symptoms and the operation time ($p=0,027$ and $p<0,001$ respectively)[8].

The time between the beginning of the symptoms and the operation time was more than 24 hours in both of our cases. A study which includes non-pregnant population showed that %19 of perforated appendicitis cases are complicated with peritoneal abscess and peritonitis[11]. The peritonitis that we observed in both of our 2 cases suggests that the risk of peritonitis during pregnancy may be increased in appendicitis. Further studies are needed for this.

There is not any certain information about the relationship between perforated appendicitis and the preterm birth rates. A study which includes 22 pregnant patients with acute appendicitis showed that 5 of them had preterm delivery and all of them were in the last trimester[2]. In our study, both of our cases had perforated appendicitis and preterm delivery; this may suggest that perforated appendicitis may increase the preterm delivery rates more than non-perforated appendicitis but further studies are needed.

There is not a maternal mortality after perforated appendicitis reported in the literature. There is not also enough data about fetal mortality rates. In this study, the first fetus needed neonatal intensive care unit (NICU) just for observation; the second fetus doesn't need NICU. The most important parameter for neonatal morbidity is gestational age. So, larger clinical studies are needed to identify the effects of peritonitis and peritoneal abscess during pregnancy.

As a result, diagnosing appendicitis is more difficult in pregnancy. If there is a suspicion, the patient must be examined both by the obstetrician and the general surgeon. If the clinicians are sure about the diagnosis, surgery must be managed as soon as possible. Other wise, complications of pregnancy such as preterm birth could be added to the complications of appendicitis.

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