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APPENDICITIS IN THE EARLY PUERPERIUM: CASE REPORT

APENDICITIS U RANOM PUERPERIJU: PRIKAZ BOLESNICE

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Case report

Key words: appendicitis, puerperium

Summary. Appendicitis is the most common nonobstetric surgical diagnosis in pregnancy, but the diagnosis during immediate postpartum period is exceptionally rare. The case of a 27 year-old puerpera who survived a rather unspecific clinical course of the disease is presented. Initial abdominal symptoms had occurred two days before term delivery but the signs of abdominal disease had been obscured by the preparation for the process of the delivery and usual complaints during the early puerperium. A day after delivery, puerpera again complained of nausea and vomiting. The abdomen was somewhat tender, but without defense, laboratory parameters were within normal limits and abdominal X rays revealed nothing suspicious, so conservative therapy was initially administered. During the next two days meteorism occurred, abdominal tenderness increased and the laboratory findings deteriorated. Now abdominal X rays prompted urgent explorative laparatomy and the patient was saved.

Prikaz bolesnice

Ključne riječi: apendicitis, puerperij

Sažetak. Apendicitis je najučestalija neobstetrička dijagnoza u trudnoći koja zahtijeva kirurški zahvat, dok je u ranom postpartalnom periodu iznimno rijetka. Prikazat ćemo 27-godišnju babinjaču s vrlo neobičnim kliničkim tijekom bolesti. Inicijalni abdominalni simptomi pojavili su se dva dana prije termina poroda, ali su znaci karakteristični za akutni abdomen bili prikriveni samim početkom poroda, te uobičajenim smetnjama tijekom puerperija. Dan nakon poroda babinjača se ponovo žalila na mučninu i povraćanje. Abdomen je bio osjetljiv, ali bez defansa, laboratorijski parametri u granicama normale, a rendgenski nalaz uredan, pa je primijenjeno konzervativno liječenje. Tijekom iduća dva dana pojavio se meteorizam, abdominalna osjetljivost je porasla, a laboratorijski nalazi su se pogoršali. Prema rendgenogramu indicirana je hitna eksplorativna laparotomija te je pacijentica uspješno zbrinuta.

Introduction

The incidence of appendicitis is about 1:1000–1:1500 pregnancies in general population,[1] but since the clinical presentation is altered during gestation the outcome significantly differs.[2,3] Frequently, the masking effect of normal pregnancy such as nausea, vomiting, abdominal cramping as well as displacement of the abdominal organs obscure and delay proper diagnosis.[4–6] In the late pregnancy as reported in our case, abdominal tenderness and rebound tenderness are even less distinct.[7] Laboratory parameters especially leukocyte count are not reliable indicators.[7,8] X-ray methods are usually postponed, and the significance of the ultrasound is not yet well established.[9] Early laparoscopic diagnosis and operation could be one of the recommended solutions. Urgent intervention prevents appendiceal perforation and rapid development of suppurative peritonitis.[10,11] When the diagnosis is postponed, the enlarged uterus, proteolysis and contractions make the circumscription of inflammatory process very difficult,[4,5] and maternal mortality rises up to 2.5% after uncomplicated appendicitis and up to 60% after supervention of peritonitis. So, explorative laparotomy or laparoscopic management is indicated as soon as possible.[12,13] Our case is rather extraordinary since the disease occurred almost simultaneously with labor and the diagnosis was obscured until the second day after delivery.

Case presentation

A 27-year-old primipara presented at term because of contractions. During the first trimester urinary infection caused by Proteus mirabilis was successfully treated. The patient mentioned slight nausea and vomiting on one occasion two days before the hospitalization. The labor was spontaneous but prolonged and heavy, so it was supported by oxytocin and epidural analgesia. The child was born healthy. Vomiting and deep abdominal pain appeared one day after the delivery. Clinical examination showed slight meteorism, tenderness, there was no defense. Laboratory parameters were within normal limits (leukocyte count 11.0×10^9, band count 0.06, erythrocyte count 3.7×10^{12}, hematocrit value 0.34, hemoglobin 116 g/dl) and temperature was 36.8°C, as well as the first abdominal X-rays, done during the second day after delivery. It appeared that there was no indication for operation and conservative treatment was initiated. Nasogastric suction, enema, prostigmin infusion and antibiotics (Garamycin two times 120 mg, Cefuroxim 3 times 1.5 g and Efloran 3 times 500 mg daily, respectively) were administered. At last,

the patient's condition slightly improved but not for long, since the clinical presentation and laboratory parameters deteriorated rapidly during the following two days (leukocyte count was elevated up to 16.6×10^9, band count to 0.32, CRP rose up to 326 mgs) while temperature was still normal, 37.0°C. Meteorism and abdominal retention progressed followed by signs of aero liquid levels on the control abdominal X-rays. The surgery was immediately indicated, since the appendiceal perforation and peritonitis were strongly suspected. Urgent explorative laparotomy was undertaken, correct diagnosis of gangrenous peritonitis after appendiceal perforation established, and the puerpera was saved.

Discussion

Many articles in the world literature deal with appendicitis in pregnancy because of frequent pregnancy complications, high incidence of poor fetal and neonatal outcome and still high maternal mortality and morbidity.[14,15] There are still very few reports about appendicitis during labor and immediate period after delivery.[2,16] Some authors even admit that its occurrence in this period is so infrequent that each obstetrician could expect to encounter only one such case during his or her lifetime.[2] In both situations, during pregnancy or during delivery and early postpartum, diagnosis could be very difficult.[17] Therefore, we are reporting this very rare and specific case.

Usual signs suggestive of appendicitis, such as nausea, vomiting, mild abdominal pain and constipation, can be misinterpreted because in pregnancy these signs are much more often related to pregnancy itself than to intra-abdominal diseases.[2,18] Additionally, abdominal signs are less distinct because the intra-abdominal organs, especially the appendix and the omentum are being displaced by the enlarged uterus.[10,17] The stretched peritoneum and the pregnant uterus make a deep abdominal palpation really a difficult task for the patient and the surgeon.[19] Laboratory parameters are not reliable enough, X rays are used late and only with vital indications. Some clinical researches suggest ultrasonography as an important diagnostic method but nobody has enough experience in such cases. The uncertainty and the mean delay in treatment of about 60 hours is therefore very common,[4] although the delay of even 14 days was described.[13]

History data about gastric problems suggest that intra-abdominal inflammation of appendix in our case could have started a few days before delivery and progressed slowly at first. Painful and prolonged labor with epidural analgesia must have suppressed the typical symptoms. Clinical presentation was still uncommon, unspecific and difficult to recognize a day after the childbirth, probably due to prolonged disposition of abdominal organs and the inability of the stretched abdominal muscles to respond to peritoneal irritation and localize the process.[2,17] The riddle is that the first x-rays done on the first day after delivery revealed no suspicion on the correct diagnosis. Only after our patient's condition rapidly deteriorated on the third postpartal day, the second abdominal x rays showed alarming data and the surgery was undertaken. We cannot be sure when perforation had occurred and when peritonitis actually developed, but we must show how difficult it might be even to make suspicion on the correct diagnosis during labor and immediately afterwards. As all cases of the perforated appendicitis occurred only in patients in whom surgery began more than 24 hours after the onset of symptoms,[13] pathological process during these days could be very, very rapid,[4,10] as was shown in our case.

Was there any other diagnostic method to avoid the delay in treatment? We are not familiar with appendiceal ultrasonography, although some researches suggest »graded compression ultrasound«[20] as reliable method. The only possibility could have been early surgical intervention using either laparoscopy or laparotomy. Decision about definitive choice of operation and further management depends primarily on the condition of the patient and the child, gestational age and the intraoperative finding.[3] Generally, laparoscopy is the method to diagnose and treat appendicitis before 20th weeks in gestation, afterwards laparotomy is preferred.[1] As fetal and maternal mortality proved to be directly proportional to the delay in surgical intervention, and there is no time to hesitate, operation could have been done a day or two earlier. Although some evidence shows a high incidence of misdiagnosis and negative laparoscopies and even laparotomies,[4] the speed of the patient's deterioration in our case, with peritoneal inflammation in early puerperium, advocates the idea of early diagnostic laparoscopy in every suspicious situation.[21]

In conclusion, we emphasize the importance of careful observation of any abdominal symptoms during the delivery and immediately afterwards, since the inadequacy of diagnostic procedures and the delay in treatment might cause grave consequences.

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