

Pregnancy coexisting with a uterine abscess in a double uterus: a case report and review of literature

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Abstract

A 20 year old primigravida with a double uterus was admitted with a viable fetus in the right uterus and pus oozing from the left one. Management consisted of a regimen of intravenous antibiotics and intravaginal antibiotic tablets. Tocolysis was used to arrest imminent preterm labor. In the course of pregnancy IUGR was diagnosed. At 38 weeks of pregnancy a SGA baby boy of 2440g was delivered by cesarean section. The mother and the baby were discharged from the hospital in good general condition.

Abbreviations

IUGR – Intrauterine Growth Restriction
SGA – Small for Gestational Age
t.i.d – three times a day

In about 10% of recurrent miscarriages a structural abnormality of the uterus is present (Rock & Breech, 2003).

INTRODUCTION

Incomplete fusion of Müllerian ducts results in congenital abnormalities of the female genital tract. Most uterine anomalies are asymptomatic and therefore are not detected during childhood or early adolescence. Asymptomatic abnormalities often remain undetected until they interfere with reproduction (Muram, 1998). Although some uterine abnormalities can cause infertility, most patients are able to conceive without difficulty. However, the cases of spontaneous abortion, premature birth, fetal loss, malpresentation and caesarean section are clearly more frequent when a uterine anomaly is present (Chang *et al.* 2004).

CASE

A 20 year old primigravida was referred to our department in the 26th week of gestation with a suspected pelvic abscess, as well as imminent preterm labor.

Her medical history revealed that 3 years earlier she had undergone a surgery because of an endometrial cyst accompanied by a tubo-ovarian abscess. Left side ovariectomy, as well as an appendectomy were carried out. During surgery a double uterus with a common cervix were diagnosed. The postoperative period was complicated by an abscess in the post operative scar, as well as a fistula connecting the uterus and the abdominal wall. After conservative treatment the fistula spontane-

ously receded. Three years later the patient spontaneously conceived.

On admission the preliminary medical examination of the patient revealed pulse rate, blood pressure and temperature within normal range and her BMI of 21,7. The CTG trace was found to be normal.

During a speculum examination a dark yellow, malodorous, purulent discharge was observed oozing from the external cervical os. The discharge was collected for culture and sensitivity tests.

A bimanual pelvic examination revealed a gravid uterus of 26 weeks, vertex presentation of the fetus with a balloting head. An irregular soft mass was palpable around the left parametrial region.

A transabdominal ultrasound scan revealed a viable fetus, biometry corresponding with 26 weeks of gestation. Next to the left parametrium a hyperechogenic mass measuring 51x48x8 mm extending towards the cervical canal was observed. An initial diagnosis of a double uterus with a left uterine abscess coexisting with a viable and normally developing pregnancy in the right uterus was made.

C-reactive protein was elevated to 12.8mg/L (normal <5mg/L). Other routine laboratory results were within normal range.

An antibiotic regimen of Cefotaxime 1g intravenously t.i.d. was empirically administered while waiting for the culture and sensitivity results.

Upon receiving the culture and sensitivity results (*Escherichia coli*, *Micrococcus* species and *Eubacterium* species were isolated) the antibiotic was changed to Cefuroxime sodium 1.5g intravenously t.i.d. for 10 days. Amoxicillin/clavulanic acid tablets were also administered intravaginally twice a day.

Follow-up culture and sensitivity tests of the discharge from the external cervical os, carried out after two weeks of treatment revealed *Streptococcus* species, sensitive to Amoxicillin/clavulanic acid. Therefore Amoxicillin/clavulanic acid 1.2 g intravenously t.i.d was administered for 12 days. Only Amoxicillin/clavulanic acid intravaginal tablets were continued once a day up to the time of delivery. Additionally daily vaginal irrigation with bactericides was performed.

Due to the imminent preterm labour, the patient was administered 1mg of Fenoterol hydrobromide with 5mg of Verapamil hydrochloride in 500ml 5% dextrose intravenously at a speed of 0.5µ/min., which was later switched to a maintenance dose of 5 mg of oral Fenoterol hydrobromide every four hours. To alleviate the cardiovascular side effects of Fenoterol hydrobromide 40 mg of oral Verapamil hydrochloride was administered every eight hours. This regimen was continued until the end of 37 weeks of gestation.

After the treatment the discharge from the external cervical os was clear, iridescent and odorless. Subsequent cultures were negative. C-reactive protein was within normal range. Non Stress Tests were carried out 3 times a week.

Follow-up transabdominal ultrasound scans revealed intrauterine growth restriction of the fetus.

Due to symptoms of fetal distress it was decided to deliver the patient by caesarean section at 38 weeks.

Considering the surgical history and the possibility of adhesions in the abdominal cavity, a midline incision starting from the pubic symphysis and up to 2 cm below the umbilicus was created. The laparotomy, however, was not complicated by massive adhesions as expected.

The uterus was opened by a transverse incision in its lower segment. A SGA newborn male of 2440g was delivered from the right uterus and obtained 10 points of Apgar score.

A small amount of purulent discharge oozing from the left uterus was observed after the delivery. Inspection of the uterus confirmed the previous diagnosis, both uterine cavities were conjoined, forming a common cervical canal.

A single-layer continuous suture was used to close the uterine incision.

Postoperative period was uneventful, Cefazolin 1g as well as Metronidazole 0.5g were prophylactically administered intravenously t.i.d. On the eighth postoperative day the mother and the baby were discharged in good general condition.

DISCUSSION

A uterine abscess coexisting with pregnancy is extremely rare and demands extra medical and antenatal care up to the time of delivery (den Boon *et al.* 1999; Hasbargen *et al.* 2001; Sherer *et al.* 1999; Yalcin *et al.* 2002).

Congenital malformations and inflammatory conditions of the uterus are both rare and have an impact on reduced fertility rates. These conditions affect about 13% of infertile women (Grimbizis *et al.* 2001). Among all congenital malformations of the uterus, a double uterus is connected with the highest chances of successful delivery. Nevertheless, in the available literature we came across one case report of a successful delivery in a pregnancy, coexisting with a congenital malformation of the uterus and a pelvic abscess (Hasbargen *et al.* 2001).

The case we are reporting is exceptional due to the fact that the localization of the abscess was extremely unfavorable for the pregnancy, as it involved an organ in direct contact with a gravid uterus through a common cervical canal through which. The abscess was draining through the cervical canal – common for both uterine cavities.

The fact that the patient spontaneously conceived in spite of the presence of a continuous drainage of an abscess through the cervical canal where, as normally expected, the presence of numerous bacterial flora, as well as inflammation mediators, radically reduce the chances of becoming pregnant, not to mention carrying the pregnancy to term.

There are two ways of pelvic abscesses management in pregnancy are described. The first one consists of an exclusive conservative management with an early initiation of antibiotics, whereas the second method comprises of using antibiotics, as well as surgical drainage of an abscess (Sherer *et al.* 1999).

The early initiation of antibiotics according to the culture and sensitivity results plays a crucial role in an eventual success of such a pregnancy. The antibiotics not only treat infection but also enhance the effect of tocolysis in case of preterm uterine contractions. (Bobrzynska & Reron 2004). In spite of antibiotic therapy, most authors report an unfavorable outcome and a loss of pregnancy (den Boon *et al.* 1999). In case of increasing symptoms of sepsis and a threat to mother's life, termination of pregnancy becomes a life saving necessity (Dulin & Akers, 2003). A regular marking of C-reactive protein level enables to monitor the infection and the imminent preterm delivery (Reron *et al.* 2004).

The management of pelvic abscesses in pregnancy has hardly been documented. After conducting a computer based search of medical literature, we did not come across any document entailing management of such cases. We believe that the above case is the first one of its kind. An oozing uterine abscess, directly contacting fetal membranes, may have fatal clinical implications such as endometritis, intrauterine infection of the fetus but can also lead to sepsis and the ultimate death of both the mother and her baby.

Management of such a case is difficult as various factors, such as prematurity with its sequelae, exacerbation of the clinical state of the mother as well as her desire to have a healthy baby have to be taken into account.

We believe that the appropriate mode of delivery should be by an elective caesarean section at term, before the rupture of the membranes. This method reduces the risk of direct contact of the abscess with the fetus and eventual intrauterine infection.

As it was shown in this case, early and appropriate antibiotic therapy, follow-up of culture and sensitivity tests, C-reactive protein, regular Non Stress Tests as well as an elective caesarean section add up to achieve the ultimate aim of delivering a healthy baby.

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