

A Successful Live Twin Birth by In vitro Fertilization in an Untreated Patient with Silent Genital Tuberculosis

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ABSTRACT

In contrast to the high incidence of pulmonary tuberculosis in underdeveloped or developing countries, genital tuberculosis is rarely observed. Genital tuberculosis (GT) is a major pelvic factor causing infertility. The role of GT in female infertility should not be forgotten, especially in women under 40 years of age. GT should be treated before treating infertility. Nevertheless, in spite of treatment, successful pregnancy and take home baby are very rare. Herein, we describe a rare case of successful pregnancy and delivery in an untreated patient with silent genital tuberculosis.

Key words: Endometrial tuberculosis, infertility, pregnancy

Tedavi edilmemiş (Sessiz) Genital Tüberkülozu olan Bir Hastada IVF Yöntemi ile İkiz Bebek Doğumu

ÖZET

Genital Tüberküloz (GT), az gelişmiş veya gelişmekte olan ülkelerde yüksek oranda gözlenen akciğer tüberkülozunun aksine oldukça nadir gözlenir. GT, infertiliteye neden olan pelvik faktör içerisinde yer almaktadır. Kadın infertilitesinde özellikle de 40 yaş altı kadınlarda GT'nin rolü unutulmamalı, önce GT tedavi edilmelidir. Tedaviye rağmen başarılı gebelik eldesi ve bebek sahibi olunması nadirdir. Biz burada (sessiz) GT olan tedavi edilmemiş bir hastada başarılı gebelik ve doğumlu olan bir vaka sunduk.

Anahtar kelimeler: Endometrial Tüberküloz, infertilite, gebelik

INTRODUCTION

Genital tuberculosis (GT) is a bacterial infection that is rarely observed (1). It is mostly seen in women of child-bearing age (below 40 years of age), especially between 20 and 30 years of age (2). The reason for the increase in these ages is that it may be a cause of infertility (5-10%) and chronic pelvic inflammatory disease (3). In the recent years, the incidence of tuberculosis has risen due to immune deficiency and anti-tuberculosis drug resistance (4). GT is usually secondary to primary pulmonary tuberculosis; the spread is by the hematogenous, or lymphatic route, and sexual transmission has also been reported (5-13%) (5). GT affects fallopian tubes (95-100%), endometrium (50-60%) and ovaries (20-30%). The most common presenting symptoms are infertility (45-55%), pelvic pain (50%), poor general health (25%)

and menstrual disorders (20%) (6).

The disease is diagnosed by histopathological examinations in more than two-thirds of all cases. However, culture for *Mycobacterium tuberculosis* (MTB) remains the gold standard for definitive diagnosis. Polymerase chain reaction (PCR) is very useful in culture negative cases (5). Medical history, ultrasound, hysteroscopy, tuberculin test and chest x-ray can aid in diagnosis (7). The treatment of GT is similar to the treatment of pulmonary tuberculosis. Long-term multi-drug regimens are used. However, return to fertility or the ability to conceive remains affected even if the patient is treated for tuberculosis (5). In-vitro fertilization with embryo transfer (IVF-ET) is the most effective method for the treatment of infertility in these cases (6).

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CASE

A 34-year-old patient was admitted to our delivery room at 30 weeks twin pregnancy, complaining of regular uterine contractions and premature membrane rupture. She had irregular antenatal medical examinations at a private hospital during the course of her pregnancy. Her medical history revealed that she had suffered from infertility due to bilateral tubal occlusion. She conceived by IVF-ET two years ago however, her pregnancy resulted in miscarriage. After six months, she conceived for the second time by IVF-ET.

At admission, she was afebrile, her blood pressure was 110/70 mmHg and pulse was 78 beat/minutes. Physical examination revealed a gravid uterus, tender on palpation. She had regular contractions, and the cervical opening was 2 cm. A twin pregnancy with breech and transverse presentation, consistent with 30 and 27 weeks gestational age was observed on ultrasonographic examination. On fetal monitoring, fetal heart rates were between 120 and 150 beats/min., and regular uterine contractions (three contractions in ten minutes) were monitored. Other systemic examinations were normal. White blood cell count was $12.2 \times 10^9/L$ and the C-reactive protein concentration was 7.6 mg/L.

Intravenous antibiotic treatment, corticosteroids for fetal lung maturation and tocolytic treatment were started. However, as the cervical effacement and dilatation progressed, cesarean section was planned one day after admission. A low transverse hysterotomy was performed; amniotic fluid was clear. There were no findings compatible with tuberculosis. Viable male and female infants with birth weights 1100/1600 g, lengths 37/39 cm, and Apgar scores 3/5/7-4/6/7, were delivered. The operation was uneventful, and she had a good postoperative recovery for the first two days. On the postoperative third day, she started suffering from chest pain, fever, weakness and dyspnea mimicking pulmonary embolism. The patient was consulted by a chest diseases specialist, and anticoagulant treatment was suggested. The chest X-ray, chest computed tomography scan and Doppler ultrasound to detect deep vein thrombosis, were normal, therefore, pulmonary embolism was ruled out, and anticoagulant treatment was discontinued.

The fever persisted despite intravenous antibiotic treatment, and abdominal pain was added to chest pain and dyspnea two days later. Abdominal examination revealed generalized tenderness and distention.

Plain abdominal X-ray was normal. Generalized ascites with non-homogeneous endometrial thickening was observed in the computed tomography and abdominal ultrasonography of the patient. White blood cell count was $14.9 \times 10^9/L$, erythrocyte sedimentation rate was 49 mm/hr and the C-reactive protein concentration was 112.3 mg/L. Vaginal swab, blood cultures (for fungi, aerobic, anaerobic bacteria and mycobacteria) and urine cultures were negative. The patient was considered to have septicemia complicating chorioamnionitis. Therefore, broad-spectrum antibiotics were added to the treatment. Percutaneous drainage of ascites by ultrasonography was utilized and samples were taken for culture and biochemical tests. The ascites was an exudate and culture results were negative. However, the complaints continued, furthermore, the blood pressure decreased to 80/60 mmHg and the pulse rate increased to 120/ min.

We decided to perform explorative laparotomy to find out the reason of the fever and ascites. Surgery was done using the previous incision line. Abdominal cavity was entered, and approximately 3 liters of ascites and necrotic material was drained. Uterine sutures were re-opened; the uterine cavity was filled with necrotic endometrial tissue compatible with abscess. The necrotic material was removed without damaging the surrounding tissues, and was sent for culture (for fungi, aerobic, anaerobic bacteria and mycobacteria) and histological examination. The patient improved dramatically after

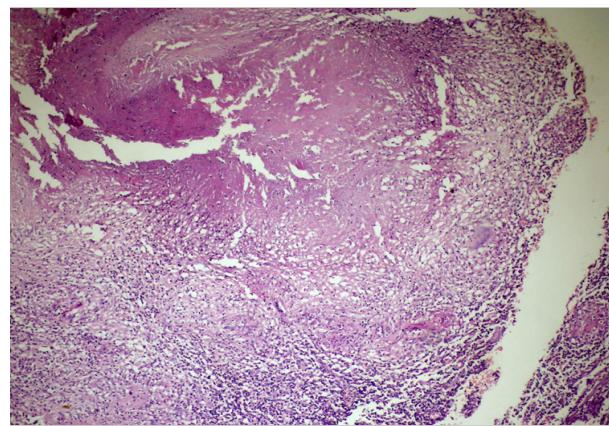


Figure 1. Histological findings (epithelioid granulomas-caseation and Langhans giant cell) compatible with tuberculosis.

the surgery. Unexpectedly, the culture was positive for MTB, and caseating epithelioid granulomas were detected on histological examination (Fig. 1). After the diagnosis was established, the patient was put under anti-tuberculosis treatment for six months with complete healing.

DISCUSSION

Tuberculosis, especially pulmonary TB is a major health problem, especially in the underdeveloped and developing countries. The real incidence of GT is not known. It is an insidious disease and occurrence of symptoms takes years (8). A great majority of GT occurs during the reproductive years (before 40 years of age), as the endometrium has a very rich medium to regenerate for MTB during the fertile period, and the disease is rarely encountered in the postmenopausal period (9). Granulomas develop in the endometrial tissue and replace the endometrial glands. Since the endometrial glands are usually involved, endometrium shows a poor response to ovarian hormones, contributing to infertility. GT is the cause of 5-10% of all infertility cases (10). When the endometrium is affected, the fallopian tubes are already involved. TB involves the tubal mucosa, and then shows a transluminal spread to the ovaries and uterus. It may result in diminished ovarian reserve (11).

Tubal pregnancies generally result in miscarriage because of inadequate placentation due to insufficient blood supply. However, due to the limited distensibility of the tube, it may result in ruptured ectopic pregnancy. MTB may spread to the surrounding tissues such as, omentum or the intestines (5, 12). In our case, approximately 3 liters of ascites and necrotic material was observed in the intestine and in the lower segments of the uterus. According to our opinion, the disease progressed rapidly due to the increase in hormone levels and suppression of the immune system during pregnancy. There is insufficient data about the management of GT. Similar to PT treatment, long-term multi-drug regimens are generally used (9). Surgery should be performed 6-8 weeks following the medical treatment, as the medical treatment facilitates the surgical procedure reducing perioperative complications (5, 6). Pregnancy can be achieved after completing the treatment. Therefore, IVF-ET should be performed after treatment.

In vitro fertilization with embryo transfer remains the

most effective method of treating associated infertility (11). There are some studies in the literature about IVF in patients with GT. Pregnancy rates after anti-tuberculosis treatment have been reported between 9.1% and 38% (12-16). On the other hand, the rate of pregnancy in non-IVF cycles after anti-tuberculosis treatment has been 19.6% (17). In a study, 8 of 9 women had spontaneous abortion after treatment (18). Normal conception is difficult in a patient with GT, in the case reported herein, the patient conceived by IVF. To the best of our knowledge, this is the first case of undetected and untreated GT that is diagnosed after cesarean section.

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