



# Intact Heterotopic Pregnancy Located Simultaneously in the Fallopian Tube and in the Uterus

Neslişah TERZİOĞLU, Regina GÖRSE, Anna STREITMATTER, Axel FEIGE

Department of Obstetrics and Prenatal Diagnosis, Hospital Nuremberg South, Nuremberg, Germany

## Abstract

A heterotopic pregnancy is defined as implantation of a twin pregnancy in different locations. This case report describes an unusual case of an intact heterotopic pregnancy, located in the fallopian tube and in the uterus diagnosed at 10 gestational weeks and complicated by hemoperitoneum and acute abdomen. The patient was successfully treated by laparoscopic salpingectomy. The pregnancy continued uneventfully through 39 weeks with delivery of a healthy, 3650 g newborn. The diagnosis of heterotopic pregnancy is difficult as the symptomatology is often misleading. While ultrasonography has greatly aided in the management of several cases, only increased clinical awareness and suspicion can yield improved diagnostic accuracy.

**Key words:** heterotopic pregnancy, ectopic pregnancy, twins, transvaginal sonography, laparoscopy

## Zusammenfassung

### Eine Simultan Aufgetretene Intrauterine Und Extrauterine Schwangerschaft-Fallbericht

Unter einer heterotopen Schwangerschaft versteht man die Lokalisation einer Mehrlingsgravidität an topographisch verschiedenen Orten (z.B. intrauterin + intratubar, intratubar + intraabdominal, intrauterin + ovariell usw.). Sie tritt in einer Häufigkeit von 1:30 000 Schwangerschaften auf. Diese Kasuistik beschreibt das gleichzeitige Auftreten einer Tubargravidität in Kombination mit einer intrauterinen Schwangerschaft in der 10.SSW. Bei der Patientin wurde eine laparoskopische Salpingektomie durchgeführt. Die intakte Schwangerschaft verlief weiterhin unauffällig. In der 39. SSW wurde die Patientin spontan entbunden. Das gesunde Neugeborene wog 3650 g. Die Arbeit gibt einen Überblick über die gegenwärtige Literatur.

**Schlüsselwörter:** heterotope gravidität, tubargravidität, gemini, transvaginale sonographie, laparoskopie

## Özet

### Fallop Tüpü ve Endometrial Kavitede Heterotopik Gebelik: Olgu Sunumu

İkiz gebeliğin birbirinden ayrı bölgelerde implantasyonu (örneğin intrauterin ve tubal, tubal ve abdominal, intrauterin ve ovarial vs.) heterotopik gebelik olarak adlandırılmaktadır. İnsidansı 30 000 gebelikte 1'dir. Sunulan vakada şiddetli intraabdominal kanama ile başvuran hastada 10 haftalık heterotopik gebelik tanısı konmuş ve laparoskopik salpenjektomi uygulanmıştır. Normal intrauterin gebeliğin takibinde maternal ve fetal herhangi bir komplikasyon olmamıştır. Hasta gebeliğin 39. haftasında spontan vajinal doğum yapmış ve sağlıklı, 3650 g ağırlığında bir bebek doğurmuştur. Ultrasonografik tanı yöntemleri çok ilerlediği halde, halen günümüzde ektopik gebeliğin tanısında %100 etkinliğe sahip bir araç yoktur. Tanıda klinik bulgular ve şüphe önemli bir yer tutmaktadır.

**Anahtar sözcükler:** heterotopik gebelik, ektopik gebelik, ikiz, transvaginal sonografi, laparoskopisi

## Introduction

Combined or heterotopic pregnancy (i.e., coexistent extrauterine and intrauterine gestations) has been acknowledged to be a rare phenomenon with a theoretically estimated rate of occurrence of one in 30 000 pregnancies (1-5). The vast majority combine intrauterine and tubal pregnancy (4). The first documented case of this very rare entity was reported by Duverney in 1708 (5).

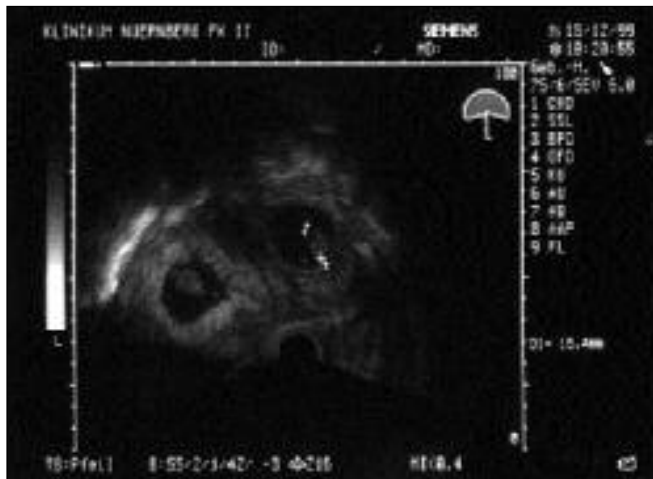
**Corresponding Author:** Neslişah Terzioğlu, MD  
Frauenklinik II - Klinikum Nürnberg Süd, Breslauer Str. 201, D-90471  
Nürnberg, Deutschland  
Phone: +49 911 398 2804  
Fax: +49 911 398 2287  
E-mail: neslisah.terzioglu@t-online.de

We report the preservation of an intrauterine pregnancy after extraction of the tubal pregnancy by laparoscopic salpingectomy.

## Case Report

A 30-year-old white female, primigravida, last menstrual period October 10, 1999, was admitted with an episode of sudden-onset severe right quadrant pain on December 15, 1999. Clinically, she was 10 weeks pregnant. However, prior history was significant for left tubal occlusion diagnosed at laparoscopy for infertility in 4/1999.

Physical examination was significant for a pale, anxious female in distress with severe right lower abdominal



**Figure 1.** Transvaginal ultrasound image showing the heterotopic pregnancy. Cursor demonstrating the crown-rump length of the live fetus within the uterine cavity.

tenderness and rebound and referred pain to both upper quadrants. Upon pelvic examination there was no vaginal bleeding; the cervix was closed and tender to motion, but palpation of her pelvic organs was impossible secondary to voluntary and involuntary guarding and muscular rigidity. Laboratory findings were unremarkable. Beta-subunit HCG was  $> 200.000$  mIU/ml on the day of admission.

A transvaginal ultrasound confirmed a gestational sac with a crown-rump length (CRL) of 24 mm corresponding at 10 gestational weeks within the uterine cavity (Figure 1). Another gestational sac with a CRL of 23 mm was found within a cystic adnexal structure near right cornual region. Both fetal poles had regular cardiac motion. In view of the patient's status the diagnosis of heterotopic pregnancy was made and she was taken to the operating room.

Laparoscopic examination revealed an ischemic ectopic gestation in the ampullary portion of the right fallopian tube and a hemoperitoneum of approximately 1000 ml. The uterus was enlarged about 10 to 11 weeks' size according to the gestational age. By the attempts to visualize the right fallopian tube, intraoperative tubal abortion was observed (Figure 2). Even though the fetus was lying free in abdominal cavity further cardiac motion was visible. Because of deep trophoblast invasion right salpingectomy was performed. The left ovary appeared healthy.

The histology report confirmed an ectopic pregnancy with chorionic villi and a 2.5 cm large embryo. Furthermore, the fallopian tube showed chronic inflammation and salpingitis. Postoperatively, repeat ultrasound examination revealed intact intrauterine pregnancy. The pregnancy continued uneventfully through 39 weeks with delivery of a healthy, 3650 g newborn.

## Discussion

The diagnosis of heterotopic pregnancy may be difficult although current noninvasive diagnostic methods allow an



**Figure 2.** Viable ectopic pregnancy lying free in the abdominal cavity.

early diagnosis of ectopic pregnancy. Intervention before the patient's condition has deteriorated improves clinical outcome. Therefore, a proper understanding of the risk factors associated with ectopic pregnancy is a prerequisite. Several studies reported on one or more of the following possible risk factors: previous genital infections, previous surgical interventions (previous ectopic pregnancy, abdominal or pelvic surgery, and tubal surgery), previous spontaneous or medical abortion, infertility and/or tubal pathology (6). In our patient left tubal occlusion was diagnosed at laparoscopy for infertility 4/1999. Furthermore, although she denied any prior history of PID, according to histology report the fallopian tube showed chronic inflammation and salpingitis.

Many therapeutic options are now available in the treatment of tubal pregnancy: surgical treatment, which can be performed radically or conservatively, either laparoscopically or by an open surgical procedure; medical treatment and expectant management (7-10). In our case of vital tubal pregnancy we decided on laparoscopic salpingectomy. Our management was based on following consideration: In women with a history of tubal problems and a highly damaged fallopian tube as a consequence of the ectopic pregnancy, there is agreement that laparoscopic salpingectomy is a better option (5,9,10,11). Furthermore in cases of vital tubal pregnancy like in our case total salpingectomy or conservative tubal surgery in combination with systemic MTX therapy or instillation of MTX may be chosen because of the high rate of persistent trophoblastic tissue (5%) (8,10,12).

This case demonstrates an interesting sonographic and intraoperative finding and illustrates the need for obstetricians to be suspicious of pregnancy related complications, even in spite of the presence of a viable intrauterine pregnancy. It is important to remember that: first, antepartum or preoperative pick-up approaches only 10-20% of ectopic pregnancies at best (5,10); second, the



increasing use of ovulating agents in the presence of both normal and diseased tubes, as well as poorly understood factors which affect tubal motility and function, may lead to a further increase in combined (1:16 000) and ectopic pregnancies (the incidence has been rising from 0.37% to 0.8% over the past decade (13); and third, while ultrasonography has greatly aided in the management of several cases, only increased clinical awareness and suspicion can yield improved diagnostic accuracy (5).

Delay in diagnosing the condition and failure to proceed quickly with the requisite anesthesia and surgery can jeopardize both maternal well-being and survival of the intrauterine fetus.

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