

Interstitial ectopic pregnancy after salpingectomy due to previous tubal pregnancy - a case report

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Summary

Ectopic pregnancy is the development of the embryo outside the uterine cavity. In recent years an increase in the incidence of ectopic pregnancies has been observed. It is mainly related to the increased number of IVF procedures. The most frequent localization is the ampulla of the fallopian tube. In cases of intramural or cornual ectopic pregnancies, many patients have a history of ectopic pregnancy on the same side or underwent partial salpingectomy in the past. Treatment of such pregnancies involves laparotomy and removal of the uterus or cornu of the uterus. This case concerns a patient operated because of intramural pregnancy. She had a salpingectomy in the past because of tubal ectopic pregnancy on the same side. This case shows that even after removal of the fallopian tube there is still a risk of ectopic pregnancy in the intramural part of this tube.

Key words: Ectopic pregnancy; Intramural pregnancy; Surgical techniques.

Introduction

Ectopic pregnancy is the development of the embryo outside the uterine cavity. The most frequent localization is the ampulla of the fallopian tube, where 80% of ectopic pregnancies are located. Much rarer location is the interstitial part of the fallopian tube (2-4%). Some authors emphasize that an interstitial ectopic pregnancy should not be confused with cornual pregnancy. Though the term of interstitial ectopic pregnancy is often used as synonym with cornual pregnancy, according to the definition, cornual pregnancy develops in the upper and side part of the uterus and concerns double uterus, bicornuate or unicornuate uterus, and interstitial ectopic pregnancy implants in the proximal segment of the fallopian tube covered by myometrium.

The intramural part of the fallopian tube retains histological structure characteristic for the whole fallopian tube. The inner layer is the mucous membrane from columnar epithelium with secretory and ciliated cells and under it is a layer of mucous membrane without the glands. Typical mucosa of the uterine cavity is covered with a layer of columnar epithelium with single ciliated cells and under it is a thick layer of mucous membrane containing the glands. These differences in tissue structure allows in postoperative specimen to identify the location of intramural or cornual ectopic pregnancy [1-4].

In recent years an increase in the incidence of ectopic pregnancies has been observed. It is mainly related to the increased number of in vitro fertilization procedures, which have become one of the risk factors for this pathology. Di-

agnostic and treatment methods of ectopic pregnancies have improved significantly and are more effective [3-5].

It is believed that the intramural portions of fallopian tube can have a tortuous pattern. By analyzing the risk factors of ectopic pregnancy in the intramural part of fallopian tube, we can come to the conclusion that there will be a greater risk of interstitial ectopic pregnancy in women with a tortuous pattern of the intramural portion than those with a straight or curved one [6].

Currently, diagnosis of early ectopic pregnancy besides interview and physical examination is achieved using a combination of transvaginal ultrasonography and serial measurement of serum β -hCG concentrations [1].

The primary treatment for intramural ectopic pregnancy includes surgical treatment. Traditionally, treatment of such located pregnancies involved laparotomy and removal of the uterus or cornu of the uterus. In a patient who is haemodynamically stable, surgical management can involve laparoscopy or laparoscopy in combination with hysteroscopy. It is also permissible expectant and pharmacological treatment with methotrexate [7-11].

An intramural ectopic pregnancies sometimes occurs in patients that underwent a partial salpingectomy because of ectopic pregnancy on the same side in the past [1, 3-5].

Case Report

A 29-year-old patient was admitted to the Department of Gynaecology and Urogynaecology of Pomeranian Medical University in Szczecin on October 10, 2012 with complaints of severe pelvic pain. Last menstrual period was on August 21,



Figure 1. — Picture of the intramural pregnancy.



Figure 2. — Picture of the uterus with hemostatic stitches.

2012. In 2006 patient had cesarean delivery and in February 2012 underwent left salpingectomy due to tubal pregnancy. She menstruated regularly every 32 days. On admission patient was in a good general condition. Blood pressure was 90/60 mmHg with a heart rate of 68/minute. On examination, the abdomen was painful with peritoneal signs expressed. In gynecological examination there was no vaginal bleeding. Uterus was ante-flexed and painful during motion. The area of left adnexa was tender on palpation. Transvaginal ultrasound examination revealed an ante-flexed uterine corpus, uterine dimensions of 46×38 mm, normal myometrium, and 15-mm-thick decidualised endometrium with no visible intrauterine pregnancy. Right ovary measured 25×18 mm and left ovary measured 28×20 mm, both with small ovarian follicles. In a region of left uterine cornus a hyperechogenic mass with dimensions of 36×29 mm was found; there were blood clots and gestational sac with a diameter of 20 mm with fetus of crown-rump length (CRL) of 8 mm which corresponded to six weeks five days of pregnancy with visible cardiac activity. Behind the uterus a small amount of fluid in the Douglas pouch was found. Laboratory tests indicated that serum β -hCG concentration was 22308 mIU/ml. The laboratory blood count investigations were within normal limits, such as electrolytes and coagulation parameters.

After the admission patient's condition suddenly worsened, with symptoms of peritonitis and signs of bleeding into the abdominal cavity were detectable. The patient qualified for emergency laparotomy. During surgery haemoperitoneum of approximately 700 ml blood with clots and right adnexa without changes were detected. In the intramural part of the left fallopian tube, an ectopic pregnancy was visible with bleeding. Tissues of pregnancy was completely removed from the fallopian tube and uterus was sutured with hemostatic stitches. Due to the significant blood loss during the operation, the patient received two units of packed red blood cells. Hematological examination of the first postoperative day showed white cell count 10.62 thousand/ul, hemoglobin 9.5 g/dl, and hematocrit 27, 5%. Postoperative follow-up was without complications and the patient was discharged on the seventh postoperative day. The result of the histopathological examination confirmed the presence of trophoblast and the embryo in

tissues from the fallopian tube (Figures 1 and 2).

Discussion

The presence of spontaneous pregnancy in the intramural part of fallopian tube after salpingectomy on the same side is very rare and single cases are described in the literature [1, 8]. The main risk factor for intramural pregnancies are adhesions within the proximal part of fallopian tube and tubal surgery [1, 2, 5]. Interstitial pregnancies occur frequently in patients after assisted reproductive techniques. Implantation of the embryo in the fallopian tube after transfer may be caused by the flow of embryo to the fallopian tube after its transfer in the medium into the uterine cavity or because of transfer of embryos directly into the fallopian tube.

In spontaneous pregnancies, as in the present case, the implantation in an intramural part of the fallopian tube could be result of reflux of the embryo with the mucosa secretions from the uterine cavity [9]. Although surgical techniques have evolved over the years, most authors confirm the possibility of sparing surgery with leaving the fallopian tube undamaged by ectopic pregnancy. It carries a greater risk of a subsequent pregnancy in the operated fallopian tube or implantation in the intramural part of this tube. Therefore, some authors postulate to remove the fallopian tube with wedge cut-out of its intramural part and with stitches on the uterine horn [1, 2, 10-12]. Such action may result in the risk of uterine rupture during pregnancy or delivery [13, 14]. For this reason the choice of surgical technique is very important. When resection of the intramural part of the fallopian tube is performed, it is very important to properly stitch this area, and not only with coagulation.

Treatment of intramural tubal pregnancy includes its removal from its uterine horn. This includes the necessity of

resecting the uterine cornu or even removal of the uterus. The operation can be performed by laparoscopy or laparotomy. Laparoscopic operations are connected with shorter hospitalization and faster return of patient to everyday living than after laparotomy [15].

In the reported case, the patient underwent laparotomy because of active bleeding and haemoperitoneum. Ectopic pregnancy was removed and the site was sutured haemostatically.

The present case includes some useful clinical information and shows that even after removal of the fallopian tube, there is still a risk of ectopic pregnancy in the intramural part of this tube.

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