

# Unusual localisation of an ectopic pregnancy

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## Summary

We present a case of ectopic pregnancy with a peculiar localisation: beneath the peritoneal serosa covering the anterior wall of the uterus, at the level of the uterovesical pouch.

The case raised some diagnostic and management problems for the medical team.

Considerations are made concerning the etiopathology of this unusual form of ectopic pregnancy.

**Key words:** Unruptured ectopic pregnancy; Subperitoneal localisation.

## Introduction

Ectopic pregnancy is any pregnancy that develops outside the uterine cavity. Five possible sites of implantation are described: tubal, ovarian, abdominal, cervical and intramural.

Cervical and intramural pregnancies are uterine pregnancies occurring outside the uterine cavity justifying the name "ectopic pregnancy" instead of "extrauterine pregnancy".

In July 1996 in the 1st Clinic of Gynaecology and Obstetrics in Timisoara, a case of unruptured ectopic pregnancy presented with a peculiar localisation: subperitoneal, at the level of the uterovesical pouch and isthmus portion of the uterus.

As we have not yet observed in our practice or in the literature such a localisation of an ectopic pregnancy, we decided to present this case.

## Case Report

A 32-year-old patient was admitted to our clinic on the 27<sup>th</sup> of July 1996 with the following complaints: last menstrual period 8 weeks before, slight lower abdominal pain and irregular spotting. The patient's previous history was irrelevant, except for a cesarean section 8 years prior and two abortions (by D & C) 5 years prior.

The cesarean section was performed for fetal distress at the beginning of labour and for fetopelvic disproportion. During the intervention the bleeding was severe, making hemostasis difficult. Fever occurred in days 3 to 6 after surgery and urinary infection with *E. coli* was confirmed by cultures. The patient left the hospital 12 days after surgery in good condition.

The actual history indicated that she was treated clinically with estrogen-progestins, as spottings had been evaluated as dysfunctional. By the time of admittance, pelvic examination revealed a slightly enlarged uterus and tenderness of the left adnexa, a nulliparous cervix with no lesions and a slight bleeding.

The Beta hCG test was positive (95.97 mUI/ml; normal levels outside pregnancy being < 7 mUI/ml by the Serono method).

Pelvic ultrasound, using a 7 Mhz vaginal transducer showed the uterus, slightly enlarged, with a 9 mm thick endometrial rim and the uterine cavity empty. Lateral to the uterus on the left, an ectopic gestational sac with an embryo of about 7 weeks was revealed, with fetal heart beat present. There was no free intra-peritoneal blood in the pouch of Douglas (Fig. 1).

Based on the clinical, laboratory and ultrasound findings, the medical team proceeded with a laparotomy. No blood was found in the peritoneal cavity, the uterus was slightly enlarged with a regular shape, both tubes and ovaries were normal, without lesions. Exploration of the peritoneal cavity for an abdominal pregnancy was negative.

A soft blueish tumor, anterolateral to the uterus on the left, developing on the base of the broad ligament, mimicking varicose veins was noted. The surgeon decided to end the operation as no extrauterine pregnancy was found. Immediately after surgery, a D & C was performed and the tissue obtained was examined by a pathologist, revealing the endometrium in a proliferative phase, with a lax stroma. No decidual or Arias Stella reactions were noted (Fig. 2).

The postsurgical outcome was normal, but the pelvic pain and spotting persisted.

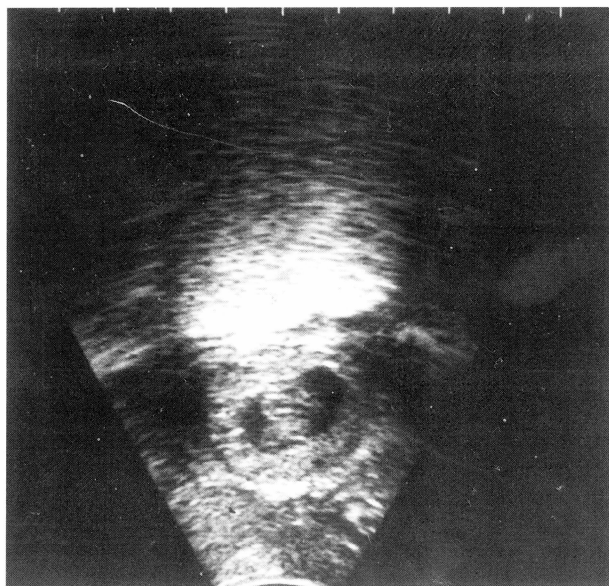


Figure 1. — Echographic aspect of ectopic pregnancy.

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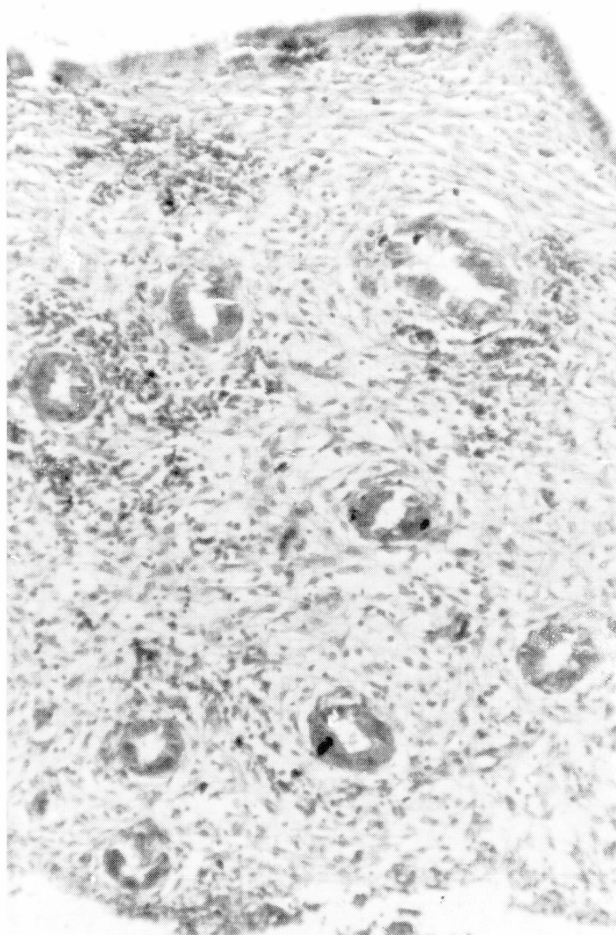


Figure 2. — Histopathologic aspect of endometrium.

Another Beta hCG test was performed, showing a slight increase (112,45 mUI/ml).

A second vaginal pelvic ultrasound offered the same image of an ectopic pregnancy, with the same localisation and the embryo presenting heart activity.

Under these circumstances, a second look laparotomy was performed (6 days after the previous surgery), with ultrasound control during the procedure. The peritoneal cavity was clean, with no blood, no lesions on the tubes and the only uncommon finding was a tumor anterolateral to the uterus, on the left (Fig. 3), which proved to be an ectopic pregnancy (observed by intraoperative ultrasound).

We made a transverse incision of the vesicouterine peritoneum at the side of the tumor, enucleating a gestational sac with trophoblast and an embryo of about 7 weeks (Fig. 4).

The placental bed presented moderate haemorrhage.

Close clinical observation revealed no injuries and no contact with the cervico-isthmic canal.

Hemostasis was made using 3 separate "X" preuterine stitches on the isthmic portion.

The subperitoneal space was drained with a thin plastic catheter, then the peritoneum was sutured and the abdomen was closed in layers.

A third pelvic ultrasound examination was performed 3 days later, revealing a normal aspect and the Beta hCG test showed a decrease (19,52 mUI/ml). Postsurgical outcome was uneventful and the patient left the hospital 6 days later in good condition.

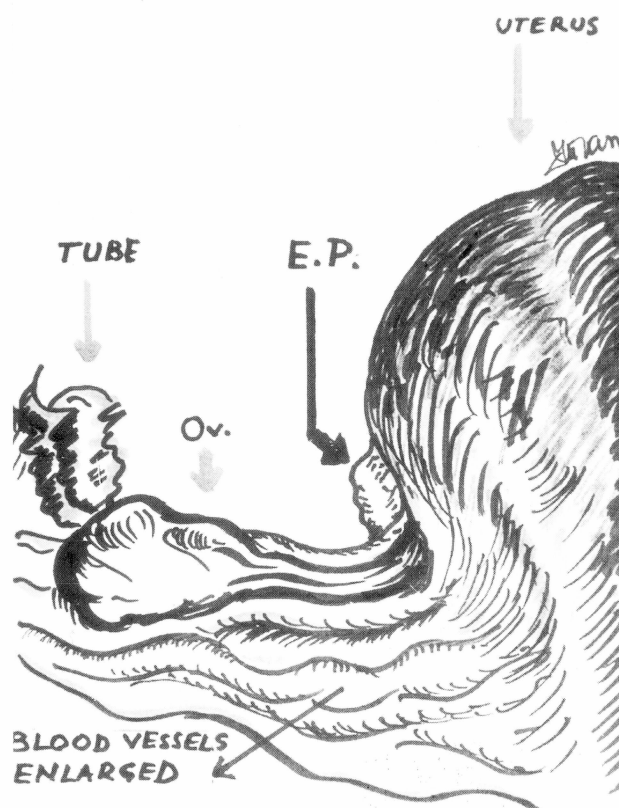


Figure 3. — Scheme of intraperitoneal situation of ectopic pregnancy.

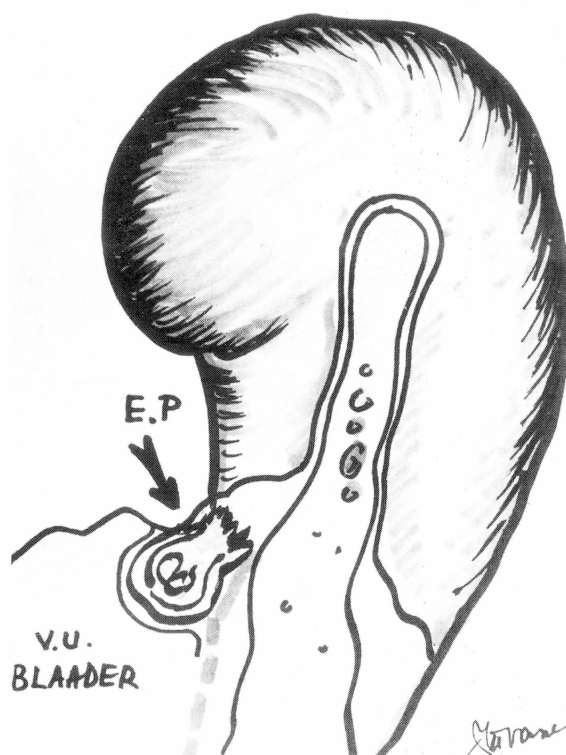


Figure 4. — Scheme of ectopic pregnancy after incision of peritoneum.



Figure 5. — Histopathologic aspect of placenta and decidual layer.

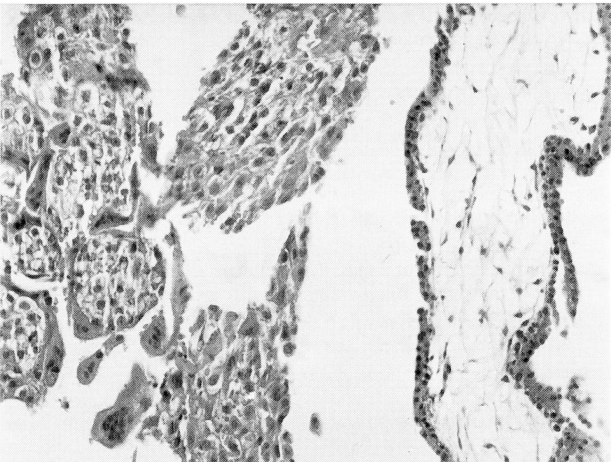


Figure 6. — Histopathologic aspect of placenta and ectopic decida.

The histopathologic exam of tissue obtained revealed: placenta with marked edema in vilous stroma, intense proliferation of syncytiotrophoblast, decidual cells with slight fibrinoid degeneration marked inflammation and hemorrhagic necrosis (Fig. 5, 6).

Six weeks later, the patient was in good condition. Pelvic ultrasound showed a normal pattern and the Beta hCG test was negative (3.2 mUI/ml).



Figure 7. — Cervicohysterosalpingography showing the fistula.

A cervicohysterosalpingography was performed in order to find a possible explanation for this peculiar case of implantation and the image found was relevant: the uterine cavity and tubal patency were normal; a fistula of about 1-2 cm, lateral to the cervico-isthmic canal on the left, with the contrast substance accumulating in front of the uterus was observed. This aspect was more evident in the left oblique position (Fig. 7).

## Discussion

Beside the difficulties in diagnostic and management decisions of this rare case of ectopic pregnancy (we also considered the possibility of ultrasound guided Methotrexate injection into the gestational sac) the most puzzling aspect was the modality of egg implantation in this peculiar site.

Based on the patient's obstetrical and clinical history, ultrasound, histopathologic and especially hysterosalpingographic findings, our hypothesis of what happened is:

- the difficult hemostasis during cesarean section included endometrial tissue in the uterine closure, which permitted the development of endometrial tissue, thus, the fistula between the cervico-isthmic canal and vesicouterine space was lined with functional endometrium;
- the egg did not find proper conditions for implantation in the uterine cavity possibly due also to the estrogen treatment;
- the fistulous trajet allowed the egg to cross to the subperitoneal space, where it nested (histopathologic aspects revealed decidual elements that could not be found subperitoneally if endometrial tissue was absent);
- the trophoblast, trying to implant in an uncommon site, developed compensatory syncytial proliferation

(syncytial buds), thus providing a better supply to the embryo;

- this mechanism could explain the etiopathology of intramural pregnancies developing on adenomyosis foci [3].

## Conclusions

This case of anteuterine, subperitoneal implantation of an ectopic pregnancy is peculiar. We have never encountered or heard of such a case before.

The fistulous tract and endometriosis presenting at the subperitoneal level could explain the localisation.

Correct closure of the uterus, without including endometrium and a good healing of the uterine scar could constitute prophylactic measures, avoiding uterine pathology

after cesarean section and, particularly such forms of ectopic pregnancy.

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