

Spontaneous intramural pregnancy - diagnosis and management

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Abstract

We present a case of spontaneous intramural pregnancy.

A 28 year-old woman presented to our clinic with continued vaginal bleeding (> 17 days). The patient has had no history of previous operations. Transvaginal ultrasound showed a cystic, vascularized structure on the posterior uterine wall. No intrauterine amniotic sac was seen in spite of a β -HCG value of 19.128 U/l, altogether suspicious for an ectopic pregnancy.

Hysteroscopy showed a normal uterine cavity covered with decidua and with no indication of an intracavitary pregnancy or changes in the region of the posterior uterine wall. Laparoscopy demonstrated a bulge of the perimetrium with marked hypervascularisation in the region of the median posterior uterine wall, suggesting an ectopic pregnancy. Laparotomy had to be performed due to suspected placental tissue deep within the myometrium and excessive bleeding from the suspicious area. All pregnancy material was removed and the bleeding was coagulated. The post-operative course was normal and the β -HCG value decreased below indicative level.

An intramural pregnancy is a very rare occurrence. Early diagnosis and adequate surgical intervention are decisive if the uterus is to be preserved or serious complications such as rupture of the uterus are to be avoided.

Key words: ectopic pregnancy, intramural pregnancy, β -HCG levels, management.

Abbreviations: β -HCG, human chorionic gonadotrophin.

1. Introduction

The majority of ectopic pregnancies are localised in the fallopian tubes, in scars from earlier uterine sections, in the intestines or in the region of the cervix. In rare cases there may also be pregnancy in the uterine myometrium, known also as intramural ectopic gravidity. Ectopic intramural pregnancies make up to less than 1% of all ectopic pregnancies [1-3]. We present one of these cases.

2. Case Report

A 28 year-old woman with a history of a single spontaneous abortion (2 grav/0 para) presented to our clinic because of continued vaginal bleeding over a period of 17 days. The patient had no history of previous uterine or other operations or any history of bleeding disorders.

Transvaginal ultrasound showed a cystic structure of 6.8 x 2.8 cm on the posterior wall of the uterus. The Doppler ultrasound showed an area of 5 x 2.5 cm with vascularisation (Figure 1). No free fluid was seen in the pouch of Douglas. The adnexa were normal on both sides.

Without clinical symptoms, menstrual irregularities, a β -HCG (human chorionic gonadotrophin) of 19178 IE and the above mentioned ultrasound findings,

an intramural pregnancy was suspected and surgery was indicated. Informed consent about hysteroscopy, laparoscopy and if necessary laparotomy, was obtained.

The hysteroscopy showed a uterine cavity of normal size and shape completely covered with decidua. No intracavitary pregnancy or changes in the region of the posterior wall of the uterus were seen (Figure 2).

Laparoscopy showed a hypervascularised 4 cm bulge in the region of the median posterior uterine wall suspicious for an extrauterine gravidity. There was no blood, free fluid or other changes in the pouch of Douglas.

Subsequently, in the region of the bulge the serosa and myometrium were opened, and pregnancy material with placenta came to sight (Figure 3). The pregnancy material was removed. Because of suspected placental material in the depths of the tissue and excessive bleeding the procedure had to be converted to an open laparotomy. In the process the pregnancy material could be removed completely and the bleeding was coagulated. The further perioperative course was uneventful.

The postoperative course was normal and the patient was discharged five days

post surgery. On follow-up β -HCG values decreased below the indicative level.

3. Discussion

The first report about an ectopic pregnancy was written by Doederlein in the year 1913 [4].

The cause of intramural pregnancy is still unknown. There are various theories discussed like adenomyosis, trauma through surgical interventions such as enucleation of uterine myomas, hysteroscopy, curettage [5,6] or reproductive procedures such as in vitro fertilization[7,8]. Our patient had no history adenomyosis, nor had she had any surgery prior to the occurrence of the intramural pregnancy. Till to date no spontaneous intramural pregnancy has been described in the literature.

In our case the diagnosis of extrauterine pregnancy was made through ultrasound. Whereby it is difficult to distinguish whether the pregnancy is intestinal or corneal, or whether a degenerated uterine myoma or a pregnancy with a congenital deformity of the uterus is shown. 3D ultrasonography and MRT are options to confirm the diagnosis [9,10]. In our case the combination of ultrasound and the course of the β -HCG levels rose to the suspicion of an ectopic gravidity. The

following criteria are helpful for the ultrasonographic diagnosis of an intramural pregnancy: 1) gestational sac/product at a distance from the ostium internum and the middle of the tube; 2) whether the trophoblast is partly intramural, i.e. between the myometrium and endometrium, or is completely surrounded by the myometrium; 3) lack of decidual reaction in the near of the trophoblast as well as 4) indication of increased peritrophoblastic vascularisation seen in the colour Doppler [11]. Our patient showed a positive colour Doppler sign, and a cystic structure was seen in the region of the posterior uterine wall. On suspicion of an ectopic pregnancy we performed a hysteroscopy and laparoscopy in order to obtain a final diagnosis.

Laparotomy as well as a laparoscopy are described in the literature as treatment options. Whereas laparotomies are performed most frequently, laparoscopies are only chosen in rare cases [12]. An additional treatment option is methotrexate therapy, which can be carried out locally or systemically. Bouzari et al. describe the successful treatment of an intramural pregnancy on the posterior wall of the uterus. A single intramuscular dose of 50 mg/m² methotrexate was applied; after 7 days the β -HCG level and vascularisation

decreased followed by a complete dissolution of the intramural pregnancy [13].

4. Conclusion

In conclusion, one can say that early diagnosis of intramural pregnancy is important in order to avoid the risk of uterine rupture and consecutive excessive

haemorrhage even hysterectomy. Ultrasound in combination with the colour Doppler can indicate an intramural or ectopic pregnancy. In combination with the hysteroscopy and laparoscopy a diagnosis can be obtained and decision on the best treatment can be made depending on β -HCG value, location and size of the pregnancy and surgical experience.

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Figure legend

Figure 1: Preoperative transvaginal ultrasonography showing a cystic structure with good vascularisation

Figure 2: The hysteroscopy showed no gravidity; the uterine cavity is completely covered with decidua

Figure 3: Opening of the serosa and musculature and demonstration of the pregnancy material.

Disclosure Statement

All authors declare that there is no conflict of interest.



Figure 1: Preoperative transvaginal ultrasonography showing a cystic structure with good vascularisation

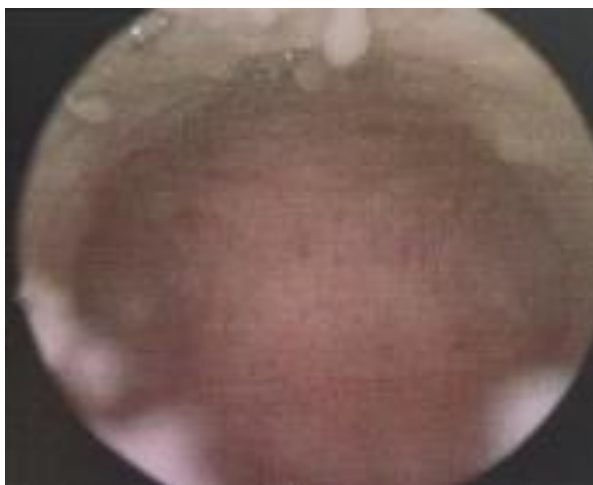


Figure 2: The hysteroscopy showed no gravidity; the uterine cavity is completely covered with decidua.

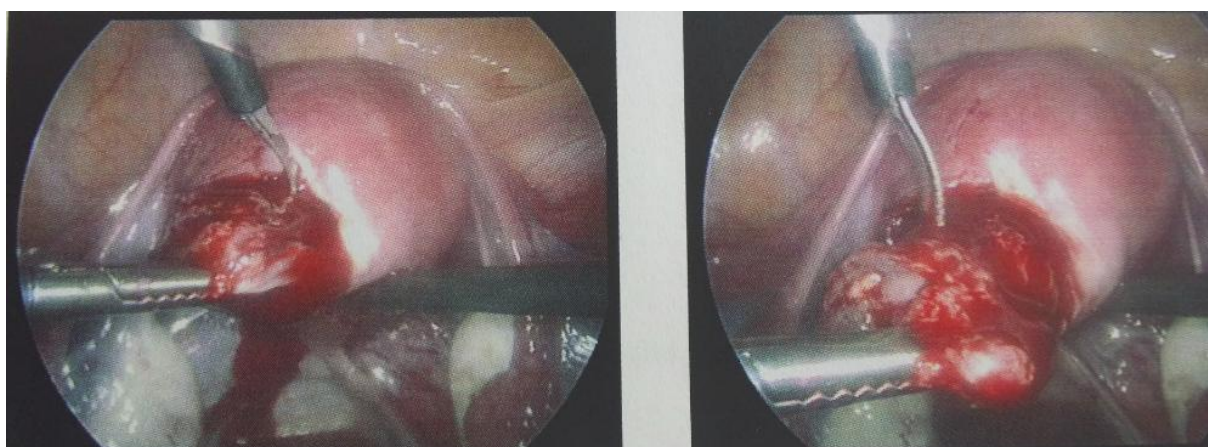


Figure 3: Opening of the serosa and musculature and demonstration of the pregnancy material.