

Invasive malplacentation of lower uterine segment in first trimester patient with obstetric shock development

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ABSTRACT

We present a case of invasive malplacentation of the lower uterine segment found in a first trimester, 38-year old woman following curettage for missed abortion. Uncontrolled hemorrhage and obstetric hemorrhagic shock developed, resulting in abdominal hysterectomy, with resuscitation. The patient made a full recovery.

Key words: invasive placentation, first trimester, hysterectomy, obstetric shock

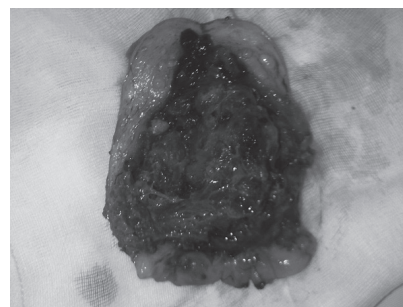
INTRODUCTION

Invasive placentation (IP) represents a spectrum of conditions characterized by an abnormal adherence of the placenta to its implantation site (placenta accreta with variants (increta/percreta)). It is related to different intrauterine procedures (curettage, hysteroscopy, manual removal of placenta) with an average incidence of 1:1000. An increasing incidence in recent years is thought to be due to the rise in caesarean sections. (1) Pregnancy with IP can be complicated by hemorrhage, hypertension and overall increased perinatal and maternal morbidity and mortality. (2) Urgent hysterectomy is required in about 9% of cases with IP, which can also be complicated by coagulation disorders and multiorgan failure due to excessive obstetrical hemorrhage and antenatal obstetric shock development. (3) Here we present a case of IP of the lower uterine segment found in a first trimester patient.

CASE PRESENTATION

A 38-year-old woman presented in her 13th week of pregnancy with mild vaginal bleeding. An ultrasound revealed a non-viable fetus in the isthmo-cervical area with a subchorionic hematoma. The patient's previous pregnancies included two miscarriages with curettage and one normal delivery with manual removal of the placenta. Laparoscopic hydrotubation and hysteroscopic polypectomy had been done due to secondary infertility, following artificial homologous insemination. Dilatation and curettage (D&C) was performed easily and histopathological examination showed necrotic decidua. The patient was readmitted after 30 days with ongoing mild vaginal bleeding. Pelvic examination revealed a soft, enlarged uterus with a bulky cervix. Ultrasound assessment showed a non-homogeneous mass (11×7 cm) with cystic-solid parts inside of the lower uterine cavity and detectable vessels and lacunas with a resistance index around 0.33. The finding was confirmed by multislice computed tomography (MSCT) which revealed a hypervascular mixed, cystic and solid lesion within the uterine cavity measuring 12×6 mm, suspicious of expansive disease. A 4.5 cm hypervascular mass in the 7th segment of the liver, with central fluid collection and rapid wash-out, was found and was suspected to be a metastasis. Hematologic profile, liver and renal function tests were normal, while βHCG was 108.2 IU/l. Since differential diagnosis included gestational trophoblastic

disease, a chest x-ray was done with normal findings. Considering that the woman wished to preserve her fertility, a D&C was performed under general anesthesia. During curettage, heavy, uncontrolled, massive uterine bleeding occurred resulting in obstetric hemorrhagic shock, which consequently led to the urgent need for total abdominal hysterectomy. The uterus was enlarged and its sagittal section revealed a mass with placental remains in the cervico-isthmic area of the uterus (figure 1).



Figures 1. Invasive cervicoisthmic malplacentation.

During surgery resuscitation with colloid and crystalloid solutions, blood transfusion and fresh frozen plasma with 1 g tranexamic acid were administered. The patient was discharged without complications on day 7, with a βHCG of 6.55 IU/l. The histopathological examination confirmed the presence of villi penetrating through the whole thickness of the isthmic and cervical posterior wall with an intact serosal surface, dilated uteroplacental blood ves-

sels and partially occluded downstream of the thrombus formation. Additional radiological assessment defined the liver mass as a hepatic hemangioma.

DISCUSSION

The literature shows very few cases of invasive placentation in early pregnancy. Most case reports include pregnancies with incomplete abortion accompanied by heavy bleeding that eventually required hysterectomy. (4,5) Moreover, some cases were complicated with severe consumption coagulopathy and hemorrhagic (obstetric) shock, such as in a case of placenta percreta. (6,7) All affected patients had risk factors such as previous uterine surgery including curettage, cesarean section and hysteroscopy. IP can be located in any part

of the uterus but its most usual site is the lower uterine segment due to the absence of a protective decidua basalis in the cervix which results in trophoblastic invasion into the cervical tissue. (8)

IP is difficult to diagnose in the first trimester, with a lower detection rate and accuracy as compared to the second and third trimester diagnosis. (9) Diagnostic imaging techniques that can be used for the evaluation of placental site and its invasion of surrounding tissue include: gray-scale, Doppler and three-dimensional sonography and magnetic resonance imaging (MRI). Common ultrasound appearance suggestive of invasive placentation involves a heterogeneous mass in the uterine cavity with destruction of the myometrium layer and with typical vascular lacunas and dilated vessels with low imped-

ance resistance indices. (6) MRI improves the diagnosis due to the better objectivisation of myometrium invasion. (10) Both diagnostic techniques are useful for management planning which can include uterine embolization or methotrexate therapy in a few selected cases.

In conclusion, we can say that prolonged vaginal bleeding after abortive curettage in the first trimester can be suggestive of invasive placentation and diagnostic assessment should include techniques that can objectivise the placental site and possible invasion. In those cases, conservative treatment can be considered. Since in everyday practice most of cases of IP in the first trimester become evident after extensive bleeding following curettage, accompanied by shock, hysterectomy is usually performed as an emergency procedure.

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