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Extrauterine abdominal pregnancy

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This case report describes an extrauterine abdominal pregnancy in a 38-year-old G2/P1 Caucasian woman who delivered a healthy preterm boy at 35 0/7 weeks of gestation. The mother had a history of uterus myomatosus that had been treated with enucleation of 13 myomas without uterotomy four years prior to this pregnancy. One year later, a spontaneous abortion had occurred.

The current pregnancy was spontaneously conceived. Because of an episode of bleeding in early pregnancy, the mother was diagnosed with missed abortion and treated with misoprostol for ten days. Subsequent ultrasound examinations revealed an intact singleton pregnancy.

At 26 weeks of gestation, uterine dehiscence in the posterior wall with peritoneal herniation of the fetal membranes through a uterine gap of 60 mm with prolapse of a fetal arm was suspected on ultrasound (Fig. 1). These findings were confirmed by MRI (Fig. 2). Both ultrasound and MRI showed the placenta to be implanted within the posterior uterine wall and fundus. There was no free abdominal fluid. The mother mentioned a few episodes of mild abdominal pain, nausea and vomiting before hospitalization.

Since the mother was asymptomatic and the risks associated with extreme prematurity were considered to by very high, it was decided to manage this case conser-

vatively. The mother was hospitalized, put on bed rest and followed closely by the obstetricians. Intravenous tocolysis was administered to avoid contractions and fetal lung maturation was induced.

At 35 0/7 weeks of gestation, elective Cesarean section was performed under general anesthesia. The anterior wall of the uterus was found to be intact. Uterotomy was performed and the amniotic membranes were dissected and incised and the fetus was delivered out of a breech presentation.

Intraoperatively, the placenta was found to be attached to the posterior wall and fundus of the uterus. It infiltrated the myometrium of the fundus, the posterior wall and the right parametrium (Fig. 3). The obstetricians proceeded with an emergency hysterectomy, because the posterior wall segment was found to be adherent to the omentum and sigma. Placenta and adherent omentum had a common vascular supply. The adnexa could not be visualized.

The known dehiscence was seen during dissection of the omentum from the uterine wall (Fig. 4). Removal of the placenta caused massive bleeding from the placental bed, and one ureter was severed and needed to be repaired by a team of urologists. Estimated blood loss was 3000 ml. The mother was treated with 5 units of packed red blood cells.

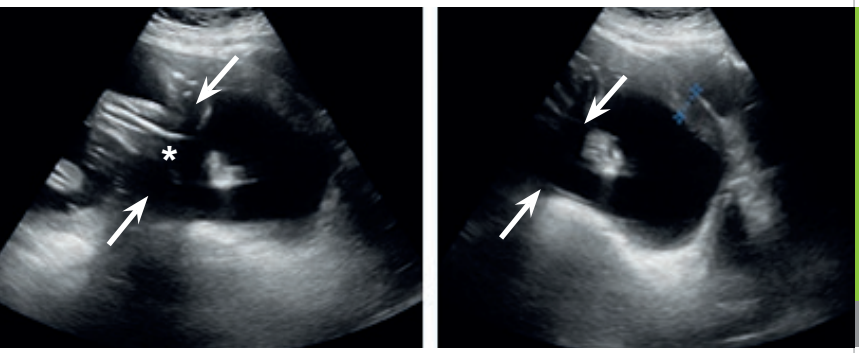

Fig. 1

Ultrasound scan at 26 weeks of gestation with diagnosis of uterine dehiscence (between arrows) with fetal arm (asterisk) and amnion prolapse.

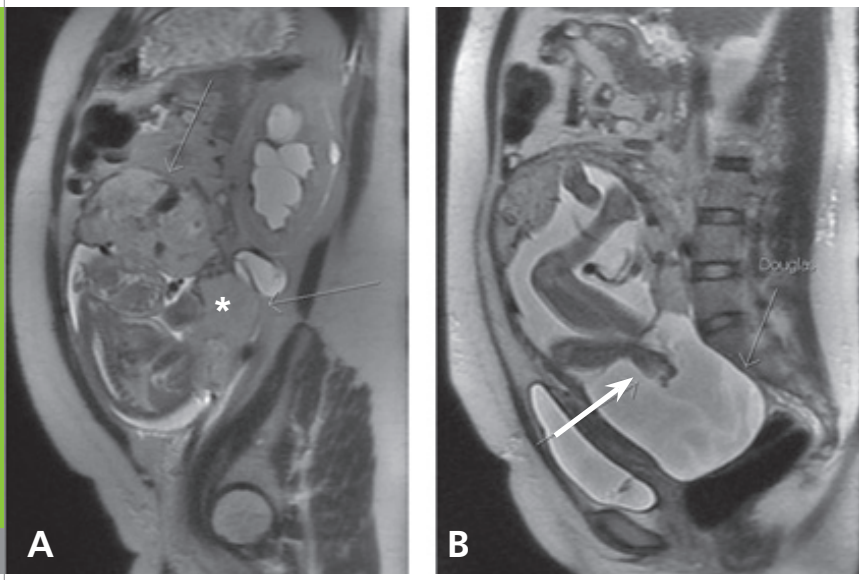

Fig. 2

Magnetic resonance imaging at 26 3/7 weeks of gestation: A) ill-defined abdominal tumor of the left uterine wall measuring 9x5 cm (asterisk); B) uterine dehiscence of the posterior wall with prolapse of a fetal arm (arrow) and amnion.

Pathologic examination of the placenta and the uterus showed an extrauterine placenta, but no placenta percreta. There was no connection between myometrium and placenta, and there was no connection to the uterine cavity. The placenta spread into the serous membranes. These findings are consistent with a primary extrauterine intra-abdominal placenta.

Umbilical arterial cord-pH was 7.39, and the male infant adapted well with Apgar scores of 6, 9, and 9 at 1, 5, and 10 minutes, respectively. Birth weight (2740 g), length (45 cm) and head circumference (35 cm) were within normal range.

On clinical examination, an asymmetric deformity of the head with right-sided parietal flattening, congenital muscular torticollis, asymmetry of the mandible, and asymmetric position of the ears were noted (Fig. 5). The right foot and knee were edematous, and there were contractures of the elbows, knees and hips.

At one week of age, the boy was discharged home together with his mother. Weekly physiotherapy was prescribed. Ultrasound scan of the hips was normal.

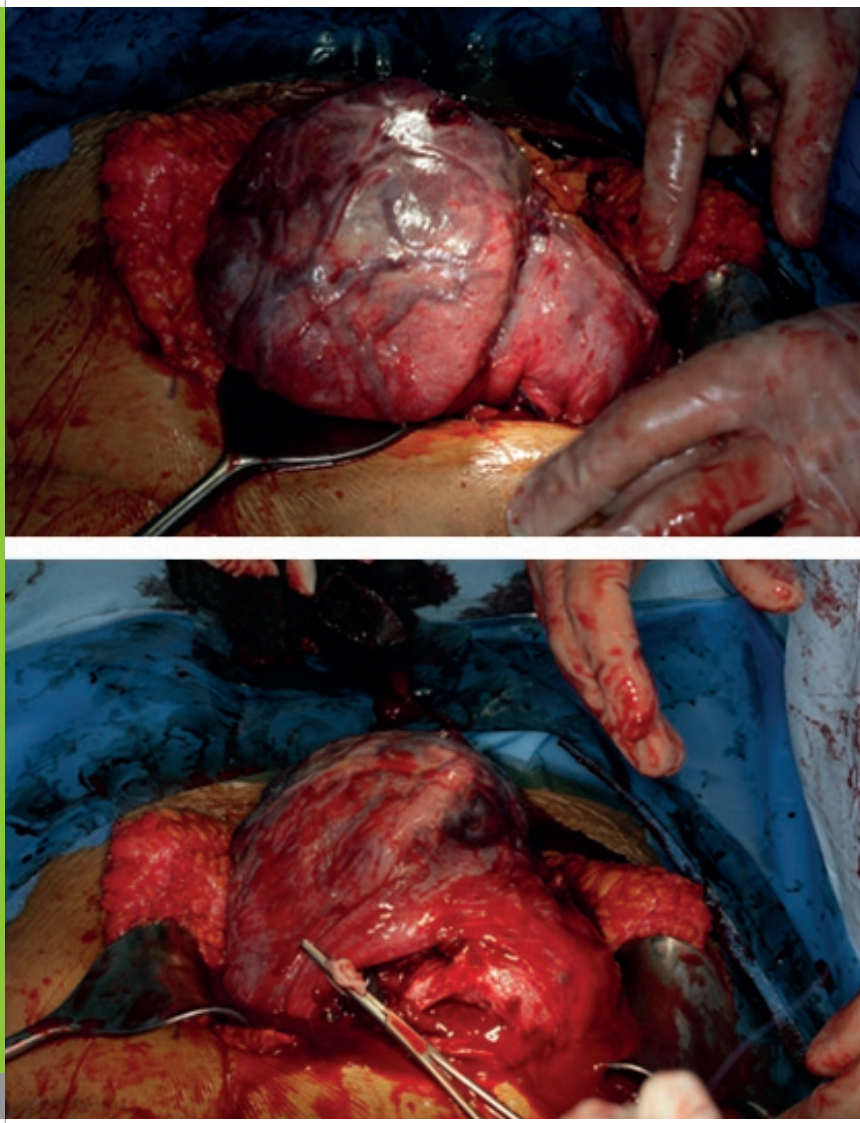

Fig. 3

Posterior wall of the uterus where the placenta was fed by vessels of sigma and omentum.

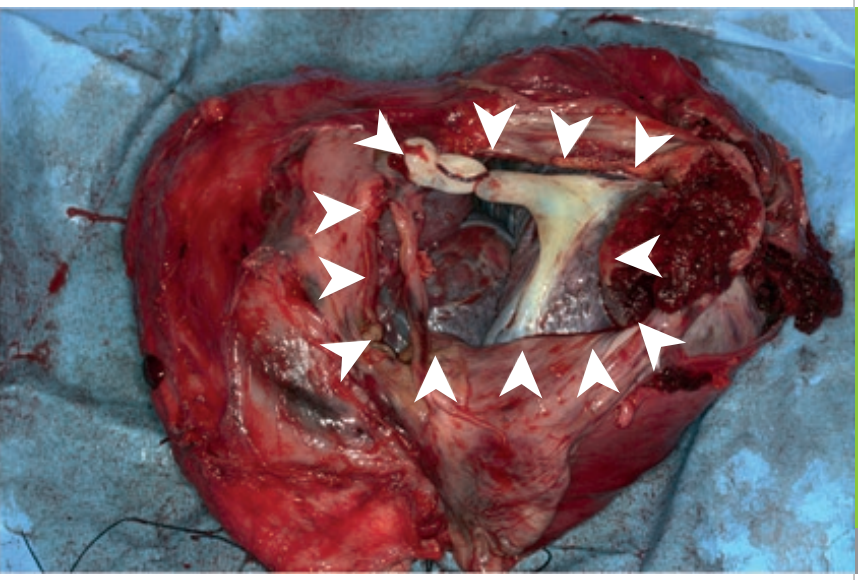

Fig. 4

Uterine dehiscence of the posterior wall measuring 6-7 cm in diameter (arrow heads).

Fig. 5

Asymmetry of the skull with right-sided parietal flattening and asymmetry of the mandible.

Advanced abdominal (extrauterine) pregnancy (AAP) can be classified as being primary or secondary (7). Primary AAP occurs when the fertilized ovum implants directly into the peritoneal cavity. Secondary AAP occurs when the fertilized ovum first implants in the fallopian tube or in the uterus but the fetus develops in their mother's abdominal cavity because of rupture of the fallopian tube or of the uterus. The placenta is often attached to multiple sites, including bowel, omentum, uterine cul-de-sac, and lateral pelvic wall. Primary extrauterine abdominal pregnancy where implantation occurs in the peritoneal cavity, outside the fallopian tube and ovary, is extremely rare. It is estimated to occur in 1 out of 10'000 pregnancies (2, 5, 7, 8). Advanced abdominal pregnancy is encountered in 1 in 25,000 births (10).

AAP can go undetected during antenatal care despite repeated ultrasound examinations until an advanced gestational age. In our case, the ultrasound examination findings were repeatedly misinterpreted as an intrauterine pregnancy with a uterine posterior wall defect. Usually the diagnosis of AAP can be confirmed and further specified by MRI, but in this case, MRI findings were also misinterpreted.

AAP carries a high degree of maternal and fetal morbidity and mortality (3, 5, 7, 9). Atrash et al. have estimated that the maternal risk of dying from abdominal pregnancy is 7.7 times greater than from tubal ectopic

pregnancy and 90 times higher than from intrauterine pregnancy (2). Maternal morbidity and mortality closely depend on how the placenta can be dealt with following delivery (e.g., implantation site and feasibility of placental removal, which depends on the degree of invasion, as well as surgical accessibility to the placental blood supply). Complete placental removal is the preferred choice to reduce maternal morbidity and mortality. If complete removal cannot be performed, the placenta should be left in situ following ligation of the umbilical cord. Subsequent management is usually expectant. Fortunately, surgical management in our case was successful, despite the fact that the placenta was adherent to the parametrium and omentum with a common vascular supply that was not easily accessible.

About 20% of infants of extrauterine pregnancy have malformations or deformations. The most common deformations are facial and/or cranial asymmetry and various joint abnormalities.

In the present case, continuous monitoring of mother and child allowed the pregnancy to be continued and the delivery to be postponed by almost 9 weeks, thus lowering the risk of morbidity and mortality for both.

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