



Spontaneous Complete Intraperitoneal Amniotic Sac Protrusion Caused by Clinically Silent Uterine Rupture Following First Trimester Abortion

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Abstract

Background: First trimester curettage is one of the most common gynecological surgical procedures. Uterine rupture during pregnancy, following this procedure may occur.

Case Presentation: A 33 years-old woman, with a history of surgical abortion by aspiration; was referred to our tertiary referral center with anhydramnios at 25 weeks of gestation. The ultrasound revealed an amniotic sac protrusion in the abdominal cavity measuring 110 mm x 100 mm associated with a silent postero-lateral uterine rupture, which was confirmed by MRI. A live 715 g male neonate was delivered by caesarean section.

Conclusion: Uterine rupture during pregnancy, following first trimester curettage may occur although this is a rare phenomenon.

Introduction

First trimester curettage is one of the most common gynecological surgical procedures with a low rate of complication (0%, 87%) [1]. We present a case of spontaneous complete intraperitoneal amniotic sac protrusion caused by a clinical silent uterine rupture, following first trimester vacuum aspiration and a probable uterine perforation.

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Case Presentation

A healthy 33-year old woman, gravid 9 para 4, was referred to our tertiary referral center at 25 weeks' gestation for anhydramnios. The patient's obstetric history was: 3 spontaneous miscarriage, 2 term vaginal deliveries and 2 term caesarean section for breech presentation, with a lower uterine segment transversal incision. In her last pregnancy, the patient underwent a vacuum aspiration, after failed medical abortion at 6 weeks. Immediately after the procedure patient had fever and pelvic pain for 2 days, but she didn't consult, and we don't know if there was a uterine rupture. Then she got pregnant 8 months later. The first ultrasound examination was performed at 18 weeks of gestation. The amniotic fluid volume was normal and no fetal abnormalities were observed. The second trimester ultrasound examination was performed at 24 weeks and anhydramnios was diagnosed, leading to the initial diagnosis of preterm rupture of membranes. The patient was referred to our tertiary referral center with neonatal intensive care facilities at 25 weeks. The patient was asymptomatic, without any abdominal pain, vaginal bleeding or amniotic fluid loss. Sonography (GE Voluson, A8) showed intrauterine foetus without malformation in cephalic presentation: an estimated weight of 720 g, anhydramnios, posterior placental insertion, and cervical length of 40 mm. Sonography revealed a complete herniated amniotic sac measuring 110 mm x 100 mm extending into the maternal abdominal cavity, on the right upper part of the uterus. The amniotic sac was communicated with uterine cavity. MRI (Figure 1) revealed a foetus without malformation with good viability, and a complete extra-uterine abdominal protrusion of the amniotic sac, intrauterine anhydramnios fetus with a uterine rupture upper part, on the right upper part of the uterus. Based on ultrasound and MRI findings, (Figure 1) the uterine defect was localised far from the uterine scar of the precedent caesarean section, and, thus, the rupture site was considered non-associated with this scar. After two injection of antenatal betametasone for lung maturation, an emergency caesarean section by midline laparotomy was performed at 25+3 weeks because of abdominal pain. At the opening of the abdominal cavity, the intact amniotic sac protruded outside

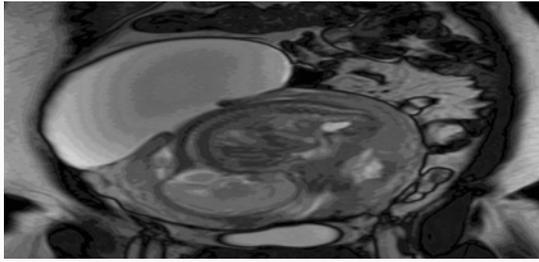


Figure 1: Coronal T2-weighted MRI of the maternal abdomen, showing the fetus in cephalic position and the uterine defect with the intra-abdominal amniotic sac protrusion.

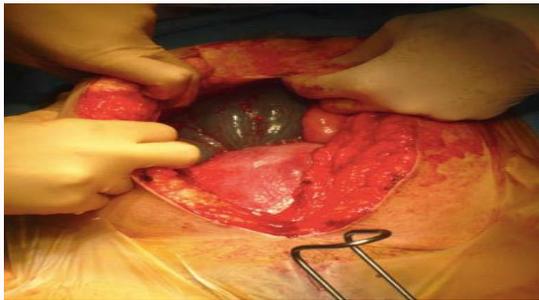


Figure 2: Uterine Rupture- surgical view.



Figure 3: Amniotic sac protrusion- surgical view.

the uterus through a 40 mm uterine wall dehiscence located far from the two previous caesarean scars. The wall of the uterine defect was located at the upper part of the anterior uterine wall (Figure 2 and 3). We extended the uterine rupture by a 6 cm longitudinal corporeal anterior incision, to preserve amniotic sac, to access to the head of the foetus (Figure 4). After amniotic sac rupture, the foetus is born with a cephalic presentation. Further inspection revealed a right side fallopian tubes' adhering to myometrium at the uterine defect. Adhesiolysis was performed. After removing the fibrotic part of the defect, the uterus was closed in 2 layers. The post-operative course was uneventful. The new-born male, weighing 715 g, had Apgar score of 8/8 (1/5 minutes). Respiratory distress occurred, which required intubation and mechanical ventilation. Respiratory condition gradually deteriorated, associated with intra ventricular hemorrhage and the infant died at 10 days after stopping intensive care.

Discussion

We present a case of spontaneous complete intraperitoneal amniotic sac protrusion caused by a clinical silent uterine rupture. We hypothesize that the uterine rupture in this case may have resulted from an unrecognized perforation at first-trimester curettage

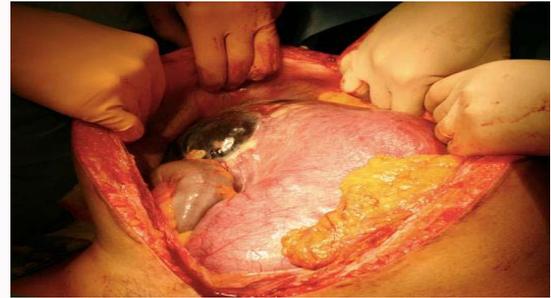


Figure 4: Amniotic sac protrusion and uterine rupture-surgical view.

procedure. A similar case of silent uterine rupture, with fetal leg protruding from the uterine perforation after a first curettage, was reported [2].

Uterine rupture during labor sometimes occurs at uterine scar. International guidelines encourage obstetricians to inform patients of this risk [3-5]. However, asymptomatic spontaneous uterine rupture during pregnancy is uncommon. Obstetric or gynecologic surgical scar including myomectomy or operative hysteroscopy are usually responsible for silent uterine rupture during pregnancy: Reported a case of pre-labor asymptomatic amniotic sac and arm protrusion through caesarean scar [6]. Reported a case of silent uterine rupture, with a protrusion of the amniotic sac through a 3 cm uterine dehiscence, secondary to hysteroscopic metroplasty [7]. Asmaa Al-Kufaishi reported spontaneous amniotic sac herniation at 33-week after two laparoscopic procedure for endometriosis [8]. Described defect in the uterine wall with prolapse of amniotic sac into it at 32 weeks' gestation in a primigravida woman without any previous uterine surgery [9].

Uterine rupture of an unscarred uterus was reported to be a rare event with its incidence 1/16,849 deliveries [10] or 0.009% [11]. Although rare, primary uterine rupture is usually symptomatic and particularly morbid [12]. In a Californian retrospective study on incidence of complication after abortion in 2009-2010, the rate of major complications among all 34,755 first trimester abortion, was 0.16% (n=57). The rate of uterine perforation was 0.01% (n=2) versus 0.08% (n=7) after second semester abortion [1]. Based on the present case and literature review, we suggest that the presence of a uterine perforation should be excluded in all cases of unexplained anhydramnios.

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