

Prepregnancy Hysteroscopic Image in a Patient in whom Spontaneous Uterine Rupture Occurred in the 27th Week of Pregnancy after Adenomyomectomy

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Abstract

We describe a preconception hysteroscopic image of a patient with a ruptured uterus at 27 weeks' gestation. A 40-year-old gravida 2, para 1, underwent open adenomyomectomy because of infertility. Subsequently, hysteroscopy performed at our hospital revealed an endometrial deficit from the uterine fundus to the posterior wall, and an area where the endometrium was missing and composed of yellow tissue was seen. She later achieved pregnancy. Lower abdominal pain occurred on day 1 of the 27th week of pregnancy. She suddenly went into a state of shock. Emergency laparotomy was performed, and a uterine rupture wound of approximately 10 cm in the longitudinal direction was seen in the posterior wall. A 1120-g male infant was stillborn. Total blood loss was 6450 mL. The mother was saved without hysterectomy. After adenomyomectomy, a hysteroscopy should be performed to check for endometrial defects before allowing pregnancy.

Keywords: Adenomyomectomy, hysteroscopy, pregnancy, uterine rupture

INTRODUCTION

Pregnancy after uterine surgery requires caution as it carries the risk of uterine rupture during pregnancy.^[1] Particular attention should be paid to pregnancy after adenomyomectomy, as uterine rupture during pregnancy is more likely to occur in these cases compared with other uterine surgeries,^[2] and actual cases have been reported.^[3] However, none of those cases had examined the condition of the uterine cavity before conception. This report describes a preconception hysteroscopic image of a patient who subsequently developed a ruptured uterus at 27 weeks' gestation.

CASE REPORT

A 40-year-old gravida 2, para 1, underwent open adenomyomectomy at Hospital A because of infertility. Approximately 10 months after the surgery, the patient

underwent hysteroscopy for infertility evaluation at our hospital, which revealed an endometrial deficit from the uterine fundus to the posterior wall and an area where the endometrium was missing and only yellow tissue could be seen [Figure 1 and Video 1]. She later underwent *in vitro* fertilization and embryo transfer at Hospital B and was able to become pregnant. Lower abdominal pain occurred on day 1 of the 27th week of pregnancy, and the patient suddenly went into a state of shock in the hospital, imitating an impending premature delivery. Emergency laparotomy was performed, and a uterine rupture wound of approximately 10 cm in the longitudinal direction was seen in the posterior wall [Figure 2]. A 1120-g male infant was stillborn, and although the total blood loss was 6450 ml, the patient was saved without hysterectomy.

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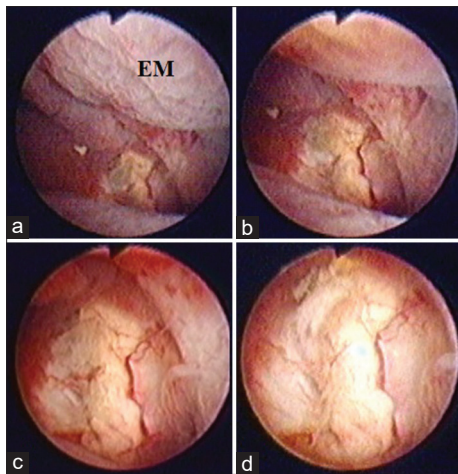


Figure 1: Prepregnancy hysteroscopic findings (a) Distant findings, (b) semi-distant findings, (c) semi-close findings, (d) close findings. Normal endometrium is defective, yellowish tissue is exposed, and blood vessels run on the surface (EM: Normal endometrium)

DISCUSSION

In this clinical image, we demonstrate for the first time the abnormal findings of the preconception uterine cavity in a case of uterine rupture that occurred during pregnancy. In this case, the area of endometrial defect identified by hysteroscopy coincided with the area where the adenomyomectomy was performed, presumably due to suture failure at the time of surgery and nearly coincided with the area where the uterus ruptured. Moreover, the placenta (chorionic villi) was observed at the rupture site. Furthermore, it was reported that uterine cavity breach in laparoscopic myomectomy might increase the risk of placenta accreta spectrum.^[4] These may be evidence to support the theory of Nishida *et al.*^[5] that villi penetrate the uterine wall from the site of endometrial defects and cause uterine rupture. After the uterine cavity is breached by adenomyomectomy, hysteroscopy should be considered to rule out endometrial defects before allowing pregnancy. When hysteroscopic findings are present, as in the present case, the uterus should be examined closely with pelvic MRI, as suggested by Otsubo *et al.*,^[6] to determine whether pregnancy and delivery are feasible before giving permission for pregnancy.

Declaration of patient consent

The author certifies that all appropriate patient consent forms have been obtained and the patient consented to her images and other clinical information being reported in the journal. The patient understood that her name and initials will not be published and that adequate efforts will be made to conceal her identity, although anonymity cannot be guaranteed.

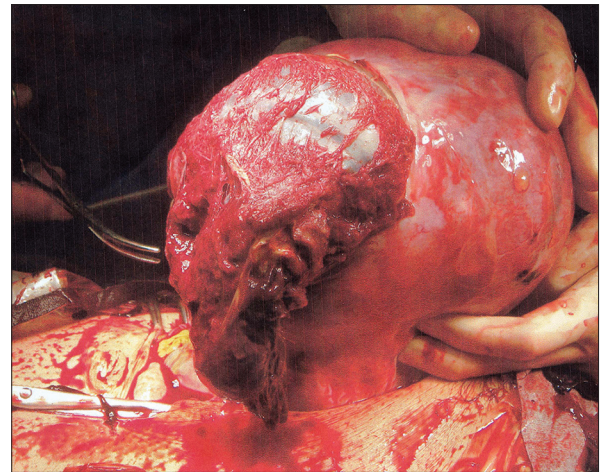


Figure 2: Macroscopic laparotomy findings during cesarean section. A complete rupture is observed in the posterior fundus of the uterus. The placental villi are visible <http://www.apagemit.com/page/video/show.aspx?num=311&kind=2&page=1>

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Conflicts of interest

There are no conflicts of interest.

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