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A Hole in Fundus of Primigravid Uterus: An Unusual Finding at Cesarean Section

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ABSTRACT

The spontaneous rupture of the primigravid uterus before the onset of labor is an obstetric rarity. Invariably, there is a history of antecedent scarring. A case of uterine rupture or defect in uterine musculature, an unusual finding at cesarean section, is reported. The probable mechanism of rupture/defect in fundus is discussed. Admission at 32 weeks and cesarean section at 36 weeks is recommended in the next pregnancy.

Keywords: Fundal defect, rupture uterus, primigravid uterus, pregnancy, cesarean section

Uncomplicated uterine perforation has been considered a benign event. Since the advent of operative hysteroscopy, there have been several reports of uterine rupture during pregnancy in patients who have undergone that procedure when complicated by known or unsuspected uterine perforation. Large fundal defects without rupture have also been reported. In general, a small midline or fundal injury with a blunt instrument does not have clinically significant sequelae if bleeding is minimal, but large rents or those caused by sharp or electrosurgical instruments may result in a need for diagnostic laparoscopy to completely evaluate the patient for bleeding or visceral injury. Lateral perforations involve risk of injury to vessels and should be further inspected with diagnostic laparoscopy or interventional radiology, angiography.

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Whenever electrical or laser injury to the bowel or bladder is suspected, laparoscopy or laparotomy is required for complete evaluation. The risk of peritonitis, sepsis and death are most often associated with unrecognized and untreated thermal injuries to the viscera.

CASE REPORT

A 24-year-old primigravida, married for 4 years, was admitted as a referred patient at term. She had a history of 4 years of infertility, having conceived following infertility treatment. She had a prior diagnostic laparoscopy for infertility 2 years back. The patient had no complaints. There was no abdominal pain, nor any bleeding/leaking per vaginum. The patient's gestational age at admission was 41 weeks.

On examination at admission, her vitals were stable. The uterus was at term, relaxed, with the fetus in breech presentation and with absent liquor. The fetal heart beat was regular. Per vaginum examination showed that the cervix was long and os closed. Her pelvis was borderline. All antenatal investigations were within normal limits. Her ultrasonography (USG) showed single live intrauterine pregnancy of 41 weeks 3 days with frank breech with absent liquor. The patient was admitted and in view of her precious post-dated pregnancy with frank breech and absent liquor and previous infertility treatment. The decision was taken for an emergency cesarean section. Her cesarean section was done and after delivery of the baby which was a healthy male child, weighing 3.44 kg, the uterus was exteriorized for examination. A 3 × 2.5 cm defect (Fig. 1) was found on the fundus

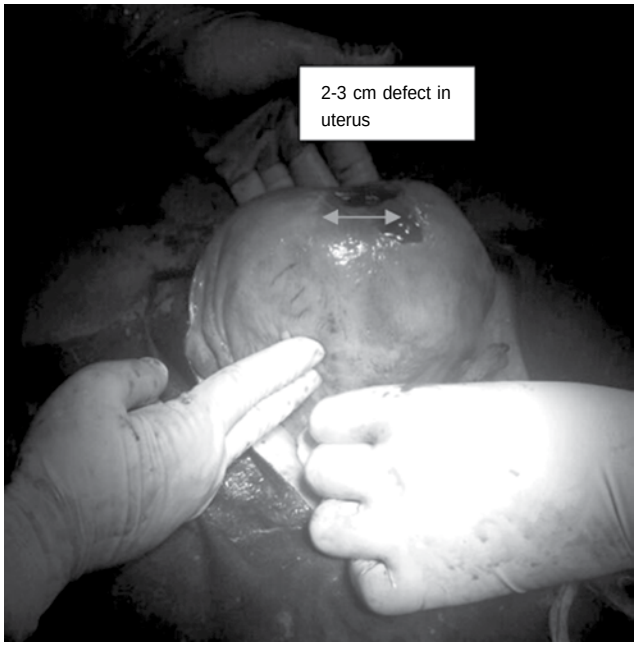

Figure 1. A 2.5 × 3 cm defect seen in the fundal part of the uterus.

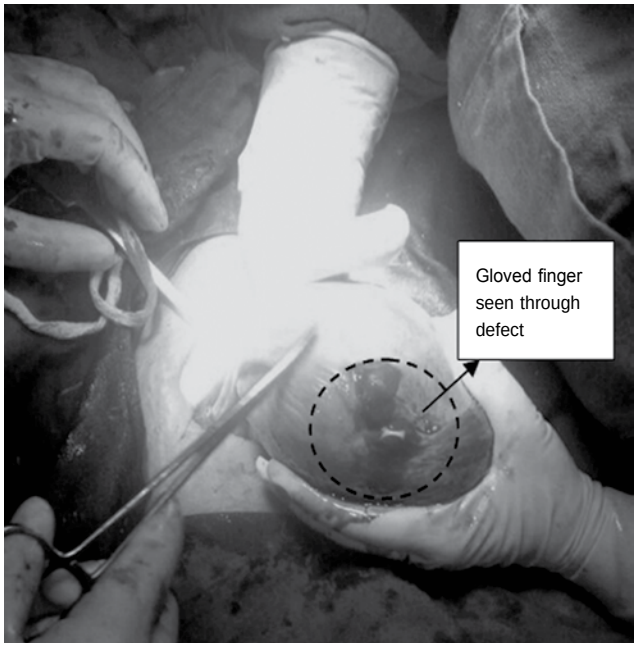

Figure 2. Defect on the fundus communicating with the uterine cavity.

anteriorly and communicating with the uterine cavity (Fig. 2). The defect was covered with fimbrial part of right fallopian tube (Fig. 3). However, in spite of the rent, there was no active bleeding from its edges. There was no tear into fresh uterine tissue. The scar tissue surrounding the hole in the uterus was excised and a two-layer closure was achieved. The lower segment of uterus and the abdomen were closed in the routine

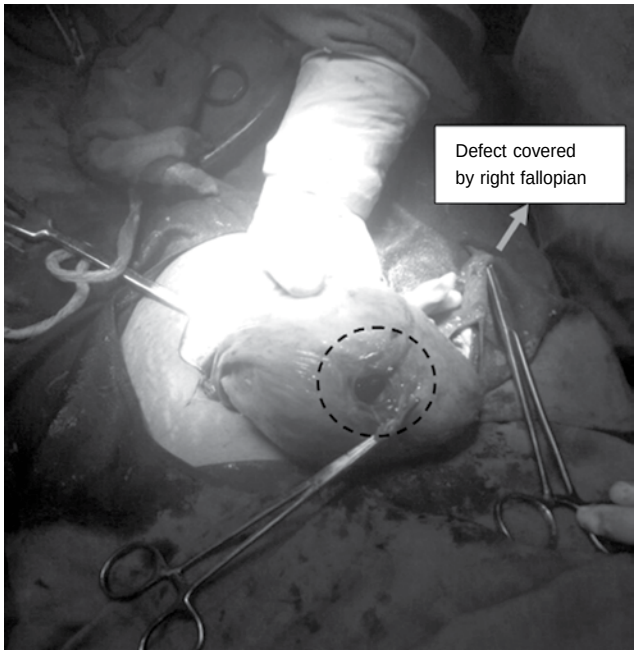

Figure 3. The defect covered by fimbrial part of right fallopian tube.

fashion. The patient made an uneventful recovery and was discharged on the 10th postoperative day.

DISCUSSION

The term 'rupture uterus' is used to denote a breach in the substance of the gravid uterus musculature from any cause after fetal viability.[1] It constitutes a life-threatening obstetric emergency with significant effects on the reproductive function of women. Uterine rupture typically is classified as either complete when all layers of the uterine wall are separated, or incomplete when the uterine muscle is separated but visceral peritoneum is intact.[2]

The majority of cases of uterine rupture occur in a patient where pregnancy follows a previous cesarean section. Direct trauma to the uterus is another rare cause of uterine rupture. The signs and symptoms of rupture of the uterus would manifest when the scar ruptures or the window extends in early labor. Silent rupture, dehiscence or windows should not be considered in the same category as true uterine ruptures. They represent no extension into fresh uterine tissue, lack symptoms, cannot be diagnosed, involve no blood loss or shock. The hazard to the mother or baby is minimal, as in this case.

The uterine wall may be weakened by previous procedures like manual removal of the placenta or curettage with or without perforation for retained

products of conception following abortion. At present maternal death as a consequence of uterine rupture occurs at a rate of 0-1% in developed nations and 5-10% in developing countries.[3,4]

In our case, the previous diagnostic laparoscopy may have caused trochar injury on the fundus.[5] Rupture uterus is one of the worst obstetric emergencies in which the life of both mother and child are in danger, the incidence ranges from 0.2% to 0.6%. Factors that can predispose to uterine rupture are multiparity, advanced maternal age, a scarred uterus, malpresentations, contracted pelvis, misuse of oxytocic drugs and rarely obstetric maneuvers like external cephalic or internal podalic version, and following instrumental deliveries.[6] Fetal morbidity invariably occurs because of catastrophic hemorrhage leading to fetal anoxia, with uterine rupture and expulsion of the fetus into the peritoneal cavity. The chance of fetal survival is minimal. Immediate diagnosis and delivery by laparotomy can save the baby.[7]

CONCLUSION

We report this case to highlight the fact that although spontaneous rupture of the gravid uterus is a very rare complication in primigravid women. It can still occur and it should be diagnosed and treated promptly. Patients with a prior dilatation and curettage, diagnostic laparoscopy and other uterine interventions should be monitored and screened for myometrial thickness prior to conception and antenatally by ultrasound and magnetic resonance imaging.

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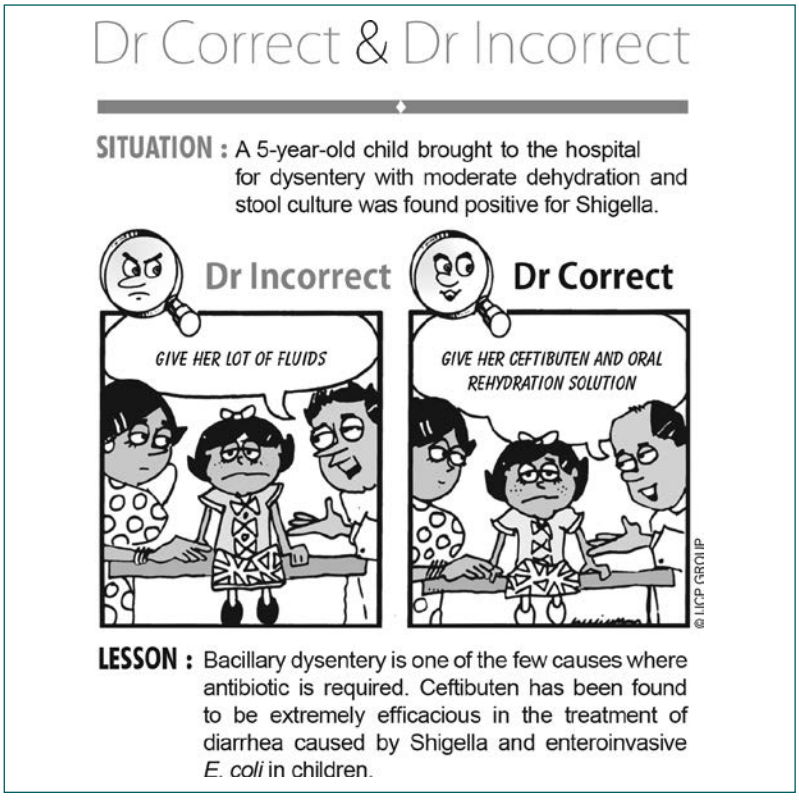

IJCP SUTRA 109: Percutaneous mitral balloon valvotomy is indicated for selected symptomatic patients with moderate MS MVA >1.5 cm^2 if pulmonary artery wedge pressure is >25 mmHg or mean mitral valve gradient is >15 mmHg during exercise and valve morphology is favorable and there is no moderate to severe MR and no left atrial thrombus. 2014 AHA/ACC Valve Guideline.