



Spontaneous Rupture of Gravid Uterus - A Case Report

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Abstract

Background: Rupture of gravid uterus is one of the life-threatening obstetric emergencies. Uterine rupture, whether natural or caused by trauma, can result in higher mortality rates for both the mother and the infant. In cases of an unscarred uterus, the occurrence of rupture is estimated to be around 1 in 17,000 - 20,000 deliveries. When a uterus ruptures in the early stages of pregnancy, it often resembles the symptoms of a ruptured ectopic pregnancy.

Case: A 24 years primigravida with two months of gestation had pain in abdomen since last 15 days and was under treatment for the same on outpatient basis. She arrived at the emergency room 2 days later with vaginal bleeding and difficulty breathing, but unfortunately passed away during treatment. There was no record of any bleeding disorders or regular medication use that could have caused the bleeding. On autopsy, a ruptured uterus was discovered at the point where the uterus meets the left fallopian tube. A macerated foetus along with blood & blood clots was also found in peritoneal cavity. Cause of death was ascertained as hemorrhage and shock due to rupture of gravid uterus. Various organ pieces, including the entire uterus with fallopian tubes and ovaries, as well as the distorted fetus, were saved for further histopathological analysis. Blood samples were also preserved for chemical analysis.

Conclusion: Spontaneous rupture of the uterus during the early stages of pregnancy is uncommon. It typically happens later in pregnancy or during active labor, particularly in cases where the uterus has been previously scarred. However, it is also important to consider unnatural causes, such as criminal or unsafe abortions, as a potential factor.

Keywords: Maternal Mortality; Uterine Rupture; Unsafe Abortion; Spontaneous Abortion

Introduction

Maternal mortality, as defined by the World Health Organization (WHO), refers to the death of a woman while pregnant or within 42 days of pregnancy termination, caused by factors related to or worsened by the pregnancy or its management, excluding accidental or incidental causes. In India, uterine rupture contributes to 2-10% of maternal deaths [1]. The rupture of a pregnant uterus is a critical obstetric emergency linked to higher risks of morbidity and mortality for both the mother and fetus. While spontaneous rupture is uncommon in first-time pregnant women in

early pregnancy with no prior uterine scarring, it can occur naturally or due to trauma. The presentation of uterine rupture in early pregnancy often resembles that of a ruptured ectopic pregnancy. The likelihood of rupture in an unscarred uterus is approximately 1 in 17,000-20,000 deliveries. This case study discusses the maternal death resulting from the spontaneous rupture of an unscarred gravid uterus at 2 months of gestation (early pregnancy) in a primigravida.

Case

A 24-year-old primigravida and two months along, visited

a clinic due to abdominal pain lasting for 15 days. The pain was similar to menstrual cramps and she did not have any other symptoms like vomiting, urinary issues, bleeding, or unusual vaginal discharge/ losses. Upon examination, her vital signs were stable, she appeared well but occasionally uncomfortable due to cramps but resolved spontaneously. Physical examination revealed normal external genitalia and no masses in the adnexa. Cervical os was closed and there was no blood seen. Vaginal swabs were taken and blood tests confirmed a positive pregnancy with appropriate beta HCG levels for the gestational age, normal blood counts, and no infections. Ultrasound scan showed a gestational sac in the uterus with fetal cardiac activity, and intact fallopian tubes ruling out ectopic pregnancy. She was given 500mg of Paracetamol which helped with the pain, and was advised to return if she experienced spotting, vaginal bleeding, or severe abdominal pain. Two days later, she presented at a tertiary hospital's emergency department with vaginal bleeding and breathing difficulties, and unfortunately passed away during treatment. There were no known bleeding disorders or regular use of medications that could have caused the bleeding. An autopsy was conducted to determine the cause

of death [2].

Autopsy Results

1. Approximately 2.5 liters of blood and blood clots were discovered in the peritoneal cavity.
2. The uterus weighed 331 grams and measured 20cm X 9cm X 2.5cm. There was evidence of an irregularly ruptured uterus (Figure 1.1) at the junction of the uterine fundus and left fallopian tube with blood infiltration.
3. A macerated fetus (Figure 1.2) was found in the peritoneal cavity in a distorted state, with identifiable eyes, nose, neck, trunk, and partial upper limbs, but completely missing lower limbs. The sex of the fetus was unidentifiable, with a weight of 70 grams and a maximum length of 15 cm.
4. The cervix was intact and closed, and the vagina was also intact (Figure 1.3).

Figure 1.1 Ruptured Uterus

Figure 1.2 Macerated Fetus

Figure 1.3 Dissected Uterus



Figure 1.1: Ruptured Uterus.

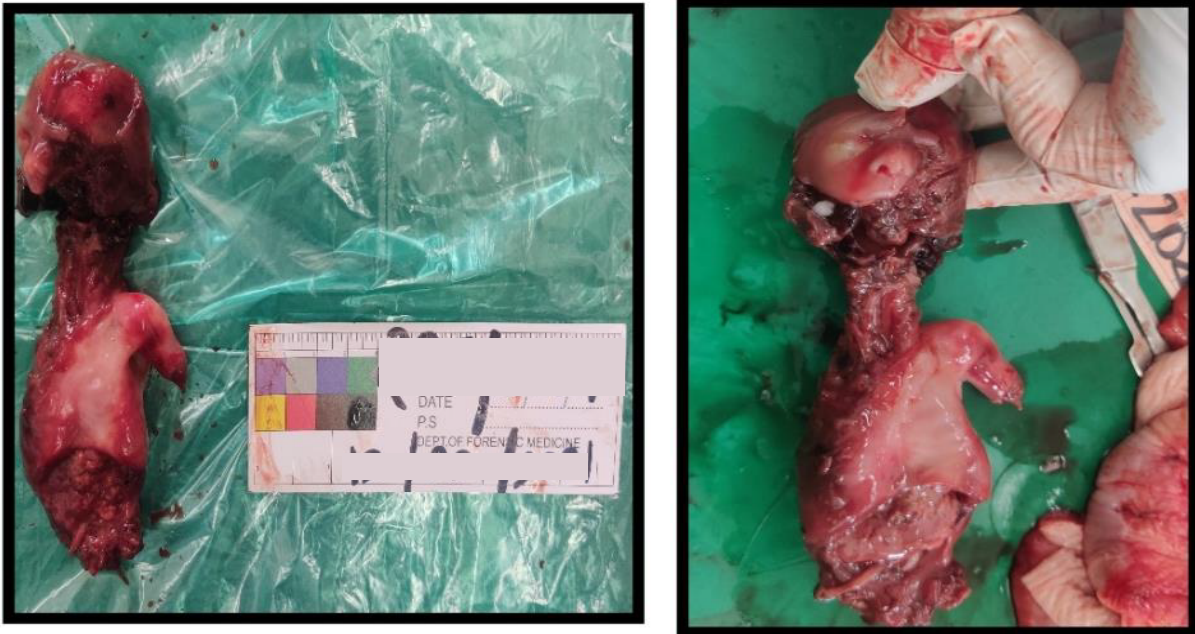


Figure 1.2: Macerated Fetus.

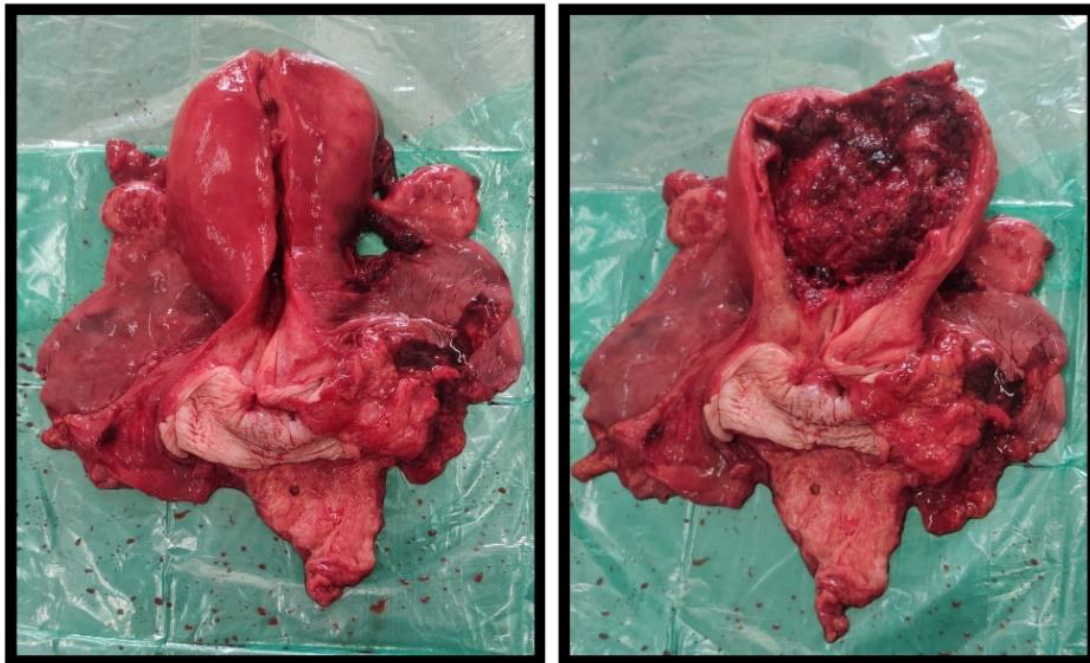


Figure 1.3: Dissected Uterus.

Cause of Death

Cause of death was ascertained as “Hemorrhage and shock due to rupture of gravid uterus”.

Samples Preserved

Organ pieces including whole uterus with fallopian tubes and ovaries, distorted foetus were preserved for histo-

pathological examination. Blood preserved for chemical analysis.

Report

The histopathology findings indicated a perforated gravid uterus with intact fallopian tubes and a macerated fetus insitu. No toxins were detected in the blood sample.

Discussion

Uterine rupture is when the uterine wall and the overlying serosa separate completely. A uterus that has not been previously scarred is less likely to experience rupture. The risk factors for a ruptured gravid uterus include the giving way of a scar from a previous cesarean section (most common), having multiple pregnancies, prolonged or neglected labor, inappropriate use of oxytocin, uterine instrumentation, and traumatic delivery methods like version and extraction or manual dilation of the cervix [3]. While rare, there have been reports of antepartum uterine rupture occurring in an unscarred uterus, particularly in the uterine cornual area, but the specific contributing risk factors have not been identified [4,5].

Medico Legal Aspects

In cases of uterine rupture with a deformed fetus, it is important to consider the possibility of unsafe abortion practices. Unsafe abortion can result in incomplete abortion and uterine rupture. The World Health Organization defines unsafe abortion as a termination procedure performed by an untrained individual or in a substandard medical setting [6]. WHO estimates that 73 million induced abortions occur annually worldwide, with approximately 45% being unsafe. More than half of unsafe abortions take place in Asia, especially in South and Central Asia [7].

In order to eliminate the possibility of unsafe abortion, a thorough external examination must be conducted. During an internal examination, the uterus, ovaries, and vagina are carefully examined as a whole for detailed analysis [8]. Typical postmortem observations include indications of pregnancy, evidence of the instrument used, damage to abdominal or pelvic organs from instrumentation, perforation of the uterus and vagina, presence of fetal tissue either intact or fragmented, and findings related to the cause of death such as septicemia, shock, and haemorrhage [9,10].

Conclusion

Spontaneous rupture of uterus in early pregnancy is rare. It mostly occurs during late pregnancy or active labour and mostly in a scarred uterus. However, it's crucial to also

consider unnatural causes like criminal or unsafe abortions. Additionally, it's important to rule out ectopic pregnancy, which can present similar symptoms to uterine rupture. Adequate antenatal care, which involves closely monitoring primigravida for impending signs of uterine rupture such as abdominal pain and unexplained vaginal bleeding, and promptly administering treatment, can prevent severe complications and lower the chances of death.

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