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Two Near Miss Cases of Hemoperitoneum Due to Ruptured Noncommunicating Horn of Unicornuate Uterus in Primigravida

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Abstract

Pregnancy in non-communicating rudimentary horn is rare. It occurs following transperitoneal migration of sperms or zygote. Uterine rupture usually occurs in 70-90% cases in the second trimester by 20 weeks. Diagnosis of rudimentary horn pregnancy and its rupture in a woman is difficult. It can be missed in routine ultrasound scan and in majority of cases it is detected after rupture. It requires a high index of suspicion. We report two near miss cases of ruptured rudimentary horn pregnancy which was misdiagnosed as intrauterine pregnancy with ruptured uterus and ruptured ectopic pregnancy; respectively.

Keywords

Unicornuate uterus, non-communicating rudimentary horn, pregnancy

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I. Introduction

Unicornuate uterus with rudimentary horn may be associated with gynaecological and obstetric complications like infertility, endometriosis, hematometra, urinary tract anomalies, abortions, and preterm deliveries. Rupture during pregnancy is the most dreaded complication which can be life threatening to the mother. A unicornuate uterus accounts for 2.4%–13% of all Mullerian anomalies which is a type 2 classification of Mullerian anomalies classified by the American Society of Reproductive Medicine in 1988 [1]. These can be further subclassified into communicating, non-communicating, no cavity, and no horn. 90% of rudimentary horns are non-communicating [1]. We report two cases of ruptured rudimentary horn pregnancy which was initially misdiagnosed as intrauterine pregnancy with ruptured uterus and ruptured ectopic pregnancy; respectively.

II. Case Reports

a) Case 1

A 19-year-old primigravida with 20 weeks of pregnancy was referred to our rural medical college at midnight from a district hospital with a history of fall at home followed by respiratory distress and painful abdomen. On examination, the pregnant woman had tachycardia and tachypnea along with severe pallor. Her blood pressure was 110/70 mm hg. The abdomen was tense and distended and the uterine size could not be assessed. Pelvic examination revealed fullness in the fornices and in the Pouch of Douglas with cervical movement tenderness. There was no vaginal bleeding. Emergency ultrasonography in labour room revealed collection in pouch of Douglas along with no fetal cardiac activity with fetus outside the uterine cavity. Paracentesis revealed blood in the peritoneal cavity. Initial diagnosis was traumatic rupture uterus. She was taken for immediate laparotomy after resuscitation.

Exploring her detailed history it was revealed that she was admitted in the same district hospital one week before with history of pain abdomen, respiratory distress and syncope and managed conservatively along with one unit of blood transfusion before discharge from the district hospital. She was misdiagnosed in the district hospital as simple case of anaemia as her ultrasonography report day before admission to that hospital showed as single live fetus of 19 weeks gestation with placenta situated at fundo-posterior and no retroplacental collection.

On laparotomy, there was hemoperitoneum of about 1.5 litres of blood and rupture of right rudimentary non-communicating horn of a unicornuate uterus (Figure 1) with the fetus and amniotic sac with placenta lying free in the peritoneal cavity. The fetus weighed about

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280 grams. The rudimentary horn was excised and repair of the remaining myometrium was done. The lady was transfused with 3 units of blood. Her postoperative recovery was good. She was later investigated for urinary tract anomalies which were found to be absent. She was discharged from the hospital on the eighth postoperative day.

b) Case 2

A primigravida at 20 weeks period of gestation was admitted in our medical college at 2 am in the night with mild lower abdominal pain with burning sensation on micturition. On admission, she had mild pallor with tachycardia. All her other vitals were stable. On abdominal examination she had mild vague tenderness in her lower abdomen. Her uterus was just palpable above symphysis pubis. Per vaginal examination revealed uterus about 14 weeks, with no bleeding or any cervical motion tenderness. It was thought to be a case of urinary tract infection; urine analysis to be performed coming morning. She was an unbooked case; so no previous ultrasound report was present. As there was no provision of emergency ultrasonography in our hospital during night hours, she was kept under observation in the labour room for ultrasonography scheduled to be done next day. Her pain subsided with intravenous analgesics.

Early morning, at 5 AM; she collapsed, with pulse 120/min, BP 90/60, but no vaginal bleeding. Paracentesis revealed blood in the peritoneal cavity. She was immediately shifted to operation theatre for laparotomy with simultaneous resuscitation with the initial diagnosis of ruptured ectopic pregnancy. On laparotomy, it revealed hemoperitoneum, about 600ml of blood present. Uterus was just bulky, in the left side there was a rudimentary non-communicating horn, which had just ruptured, with protrusion of intact sac with fetus through the dehiscence (Figure 2). The fetus was about 220 gms. The rudimentary horn was excised and repair of the uterine wall was done. The tubes and ovaries of both sides were healthy. Peritoneal washing was done and abdomen closed in layers. Patient received one unit whole blood transfusion intraoperatively.

Post operatively she received another 2 unit whole blood. She was discharged on 9th postoperative day with haemoglobin concentration 9.5gm% at the time of discharge. Follow up ultrasonography revealed no renal anomaly.

III. Discussion

Failure of the complete development of one of the Mullerian ducts and incomplete fusion with the contralateral side results in development of rudimentary horn in a unicornuate uterus. Pregnancy in a non-communicating rudimentary horn occurs through the transperitoneal migration of the spermatozoon or the transperitoneal migration of the fertilized ovum. The incidence of pregnancy in a rudimentary horn is 1 in 100000 to 150000 [2]. Rupture of rudimentary horn pregnancy is catastrophic and life-threatening because of thick muscular wall and

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vascularity of rudimentary horn. 70-90% ruptures occur around 20 weeks and timing of rupture depends on distensibility of horn musculature [1].

Early antenatal diagnosis of horn pregnancy is needed to prevent the catastrophic hemoperitoneum and obstetrical emergency; but the sensitivity of ultrasonography is only 26% and sensitivity decreases along with advanced pregnancy [2]. It can be missed in inexperienced hands as in our first case it is misdiagnosed as intrauterine pregnancy. It can be misdiagnosed as cornual pregnancy or abdominal pregnancy. Absent visual continuity tissue surrounding the gestation sac and the uterine cervix along with a pseudo pattern of asymmetrical bicornuate uterus may be useful ultrasonography diagnostic criteria [3]. Nonetheless, most of the cases remain undiagnosed until it ruptures and present as emergency. Magnetic resonance imaging (MRI) is a useful non-invasive tool to detect uterine anomalies in gravid/nongravid uterus. Renal anomaly should be evaluated as its association is upto 36% [2].

Immediate surgery is necessary in unruptured rudimentary horn either by laparoscopy or laparotomy [1]. Prenatal removal of rudimentary horn is also advised to prevent complication during pregnancy [4]. Ruptured horn with hemoperitoneum is obstetrical emergency and timely resuscitation, laparotomy and blood transfusion are needed to save the patient. A positive paracentesis result may be used to guide decision-making if other diagnostic methods are unavailable.

However, conservative management until viability is achieved has been advocated in very select cases with larger myometrium mass, if emergency surgery can be performed anytime and the patient is well-informed [2].

There is a need for an increased awareness of this condition especially in developing countries where the possibility of detection before pregnancy or before the rupture is sparse. High index of suspicion and early referral from the peripheral hospitals is needed before precise time is lost; thus reducing the morbidity and mortality of the patients.

IV. Conclusion

Pregnancy in non-communicating rudimentary horn is rare. It occurs following transperitoneal migration of sperms or zygote. Uterine rupture usually occurs in 70-90% cases in the second trimester by 20 weeks. Diagnosis of rudimentary horn pregnancy and its rupture in a woman is difficult. It can be missed in routine ultrasound scan and in majority of cases it is detected after rupture. It requires a high index of suspicion. We report two near miss cases of ruptured rudimentary horn pregnancy which was misdiagnosed as intrauterine pregnancy and ectopic pregnancy; respectively. There is a need for an increased awareness of this condition especially in developing countries where the possibility of detection before pregnancy or before the rupture is sparse. High index of suspicion and early referral from the peripheral hospitals is needed before precise time is lost; thus reducing the morbidity and mortality of the patients.

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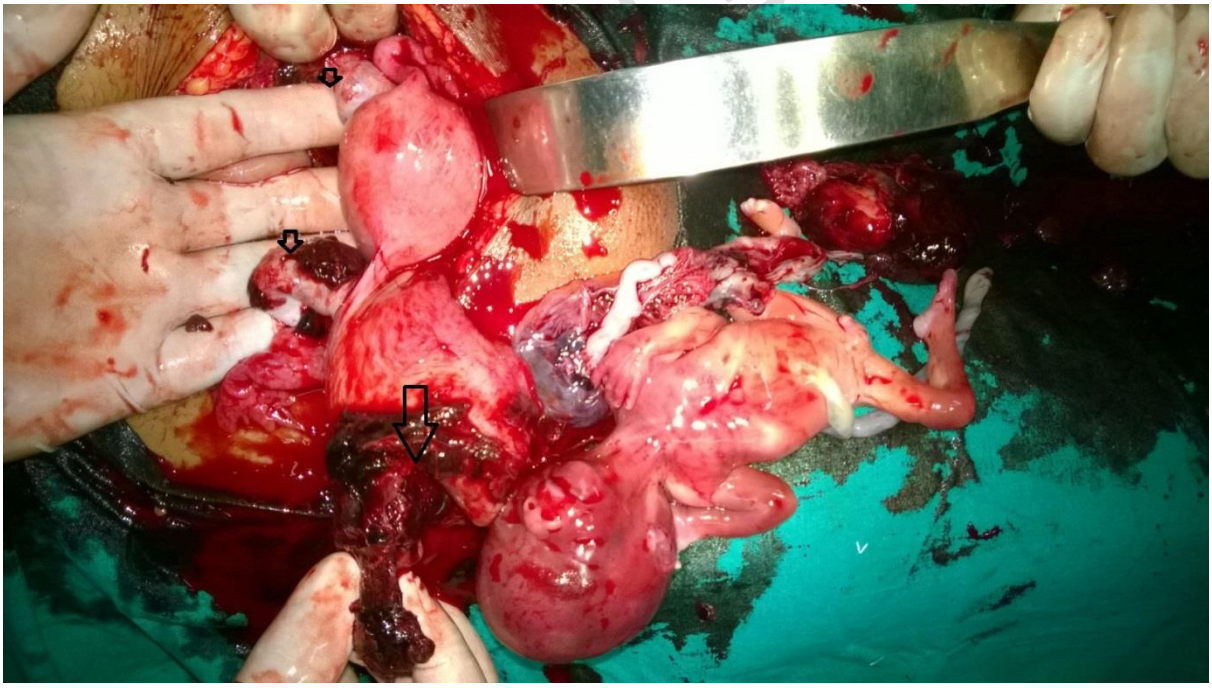

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Figure 1: Large arrow shows ruptured rudimentary horn and small arrows show bilateral ovaries

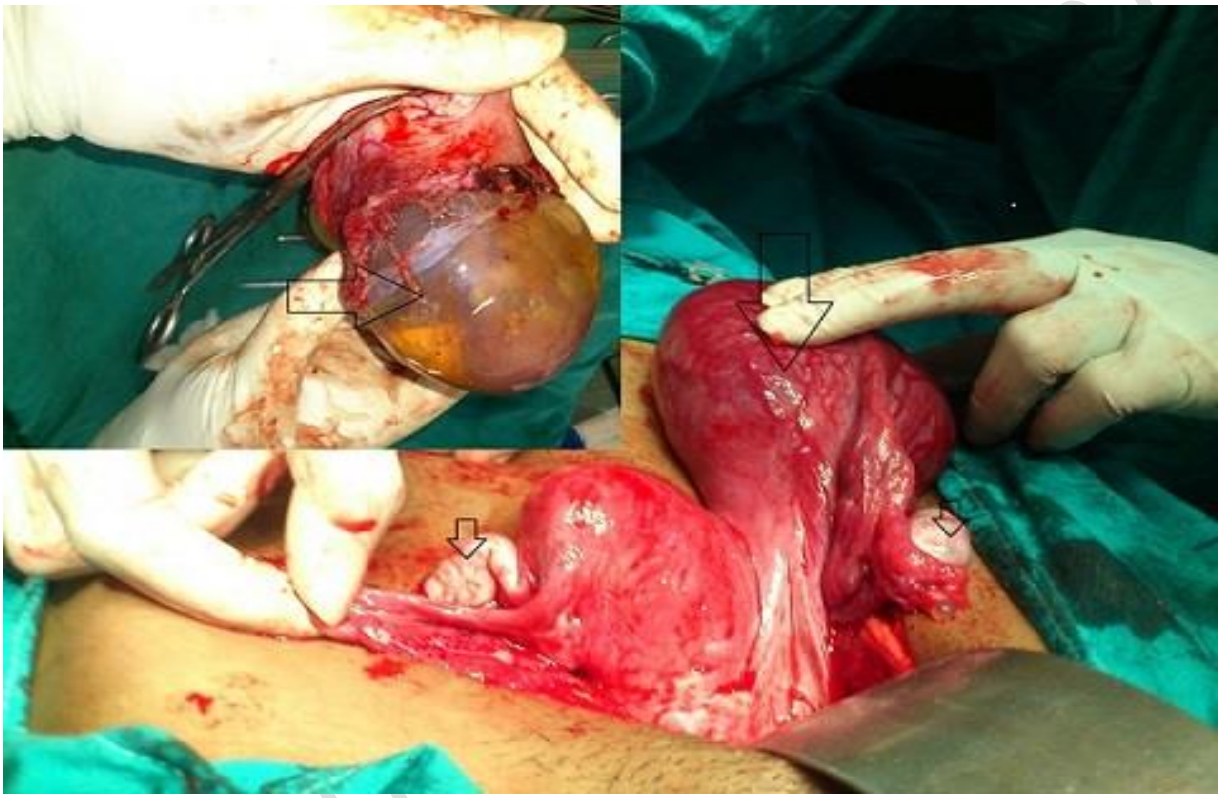

Figure 2: Large arrow shows pregnant rudimentary horn and small arrows show bilateral ovaries (Inset: Intact sac protruding through dehiscence of rudimentary horn)