

## CASE REPORT

PROF-1202

## RUPTURE OF RUDIMENTARY HORN OF UTERUS AT 16 WEEKS OF GESTATION

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**ABSTRACT...** Rupture of gravid uterus is a rare but serious obstetric complication. Rupture in primigravida in first or second trimester generally occurs in mullerian anomalies. A 24-year-old, primigravida, at 16 weeks gestation presented with dull, lower abdominal pain, and tachycardia. She underwent D&C for the presumptive diagnosis of missed abortion few days' back. Chronic ectopic pregnancy was diagnosed on the basis of history & examination, and her laparotomy was planned. Upon laparotomy, right-sided ruptured ectopic pregnancy in rudimentary horn of unicornuate uterus was found & ruptured horn was excised. The patient had uneventful recovery.

**Key words:** Rudimentary horn pregnancy (RHP).

### INTRODUCTION

Rupture uterus is a life threatening obstetric problem. It is more common in multigravida or with previous uterus scar, mostly in labour. The rupture at early gestation (first and second trimester) is mostly associated with congenital uterine anomalies i.e. mullerian anomalies, like unicornuate or bicornuate uterus with or without rudimentary communicating or noncommunicating horn. A unicornuate uterus is a mullerian anomaly of which the true incidence is unknown. According to recent calculations, it appears to be higher than previously estimated<sup>1</sup>, reaching a rate of about 1 per 250 women<sup>2</sup>. Most unicornuate uteri have a rudimentary horn without communication to the uterine cavity<sup>1</sup>. Incidence of pregnancy in rudimentary horn is 1/40,000 pregnancies<sup>3</sup>. Rupture in such cases occurs because of inability of

malformed uterus to expand as a normal uterus. The rupture in rudimentary horn is likely to occur in late first trimester or even in second trimester. Rarely pregnancy can go on till late second trimester before rupturing<sup>4</sup>. There is a risk of pregnancy developing in the rudimentary horn from trans-peritoneal migration of the sperm or ovum from the opposite side<sup>5</sup>. Endometrium of the rudimentary horn has been described as thinner than usual and sometimes nonfunctional<sup>6</sup>. Signs and symptoms of early pregnancy will develop with eventual rupture of the horn if the pregnancy is not detected early. Rupture through the wall of the vascular rudimentary horn is associated with severe intra peritoneal hemorrhage and shock<sup>7</sup>. The hemorrhage occurring because rupture is massive and can be life threatening, unless diagnosed and treated promptly. Ultrasonography

(USG) may be helpful in diagnosing such anomalies before rupture, which will help in decreasing the morbidity and mortality associated with rapid and massive haemoperitoneum. The differential diagnosis of sonographically suspected RHP is a tubal pregnancy, cornual pregnancy and an intrauterine pregnancy in a bicornuate uterus<sup>8</sup>. The traditional treatment of RHP is laparotomy and surgical removal of the pregnant horn to prevent rupture and recurrent RHP<sup>9</sup>.

### CASE REPORT

A 24-year-old, primigravida, at 16 weeks gestation, presented with dull, lower abdominal pain, and tachycardia. She had undergone D&C for the presumptive diagnosis of missed abortion few days' back. At that time, the patient had a positive pregnancy test. She presented with the complaint of mild lower abdominal pain with no signs of hemo-peritoneum on an outpatient basis. On vaginal examination chronic ectopic pregnancy was diagnosis & ultrasonographic examination revealed a dead embryo lying in right adenexa with an empty uterine cavity. She was admitted for laparotomy. Conservative management was given for one day. Suddenly the patient had an acute abdominal pain and she went into shock. The systolic blood pressure was 80 mmHg and the diastolic was 40 mmHg. Her pulse was weak, thready and 120 bpm. Her extremities were cold and clammy. She was tachypnoic and extremely pale looking. On examination abdomen was distended. There was marked guarding and rigidity. The size of uterus could not be appreciated correctly. On per vaginal examination, the cervix was tightly closed and tubular. A 16 wks size mass felt not separated from uterus, with fullness and tenderness in adenexa. Her hemoglobin was 7 gms so all her symptoms and signs were indicative of an intraperitoneal hemorrhage and shock necessitating an emergency laparotomy. Blood product replacement was urgently initiated and emergency laparotomy was performed for the presumptive diagnosis of intraperitoneal hemorrhage. Upon laparotomy, significant (1.5 L) hemoperitoneum was encountered with the fetus floating freely in the peritoneal cavity. On removing blood clot, a unicornous uterus of normal size was seen with its cavity

communicating with rudimentary right horn that was ruptured and the placenta was attached posteriorly.

The ruptured right horn was cut at its junction with the uterus and then sutured in layers. Patient was transfused with five units of blood. Patient recovered well and was discharged on day seven. She was started on oral contraceptive and was advised to continue for one year.

### DISCUSSION

Rupture of gravid uterus is a rare but serious obstetric complication. In a series reported by Heinonen and associates, 11 out of 13 patients with a unicornous uterus had a rudimentary horn and two did not<sup>10</sup>. The rudimentary horn may communicate with the unicornous uterus. Most rudimentary horns are non-communicating. Nahum<sup>11</sup> summarized 588 such cases. In that series, uterine rupture occurred in 80% of RHPs. The maternal mortality rate was 5.1%, although none was reported after 1960. However, cases of late and false diagnosis leading to uterine rupture have been reported repeatedly in the recent literature<sup>12</sup>. Some cases were diagnosed only after an attempt to evacuate the uterus for termination of an incorrectly diagnosed intrauterine pregnancy<sup>13</sup>, indicating that early diagnosis of RHP remains challenging. As in our case she underwent D&C for the presumptive diagnosis of missed abortion few days' back.

A unicornuate uterus is a Mullerian anomaly of which the true incidence is unknown. The rupture in rudimentary horn is likely to occur in late first trimester or even in second trimester. Rarely pregnancy can go on till late second trimester before rupturing. Chang et al reported rupture of rudimentary horn as late as 25 weeks of gestation<sup>4</sup>.

Signs and symptoms of an ectopic pregnancy were developed with eventual rupture of the horn. Soundararajan and Rai reported a case of rudimentary uterine horn that presented during pregnancy and mimic an ectopic pregnancy<sup>14</sup>. Rupture through the wall of the vascular rudimentary horn is associated with severe intra-peritoneal hemorrhage and shock<sup>7</sup>. The

hemorrhage occurring because rupture is massive and can be life threatening, unless diagnosed and treated promptly.

Ultrasonography (USG) may be helpful in diagnosing such anomalies before rupture, which will help in decreasing the morbidity and mortality associated with rapid and massive haemoperitoneum occurring due to rupture<sup>8</sup>. Fedele and associates have found ultrasonography useful in determining the presence of a rudimentary horn<sup>15</sup>. In our case, the patient did not have the signs of hemoperitoneum on first presentation but the positive pregnancy test and an empty uterine cavity led to the misdiagnosis of ectopic pregnancy. Ultrasonographic examination did not help to make the diagnosis of pregnancy in rudimentary horn. Since pregnancy in rudimentary horn is a very rare condition, it is not easy to gain experience in diagnosing this entity on ultrasonographic investigation. Although ultrasonography is reported to be a useful tool in diagnosing rudimentary horn pregnancy, this may not be the case in inexperienced hands.

A unicornuate uterus with a rudimentary horn is associated with endometriosis and pregnancy complications, including miscarriage, ectopic pregnancy, uterine rupture, preterm labour and malpresentation. Therefore, the horn is removed if it is thought to contain functional endometrium. This is usually done by laparotomy in the nonpregnant state. Our case also presents a primigravida, presenting with spontaneous rupture of the pregnancy in rudimentary horn. No symptoms and signs were indicative of her mullerian anomaly before her pregnancy. Besides, since mullerian anomalies are also rare entities, it seems possible to have some misdiagnoses. The only explanation for this misdiagnosis may be its rarity.

Treatment usually involved is removal of ruptured horn. As it leaves a scar on upper part of the uterus, it is important to avoid pregnancy for at least one year by barrier or hormonal contraceptives. In addition, future pregnancy requires proper monitoring, early hospitalization and elective caesarean section at term<sup>16</sup>.

Laparoscopy can be an accurate diagnostic and therapeutic tool in patients suspected to have an ectopic or intact rudimentary horn pregnancy & are hemodynamically stable, that carries significant advantages in effective surgical management, thereby avoiding laparotomy, however experienced persons are needed. In 1998, Dicker et al reported the case of a woman who benefited from laparoscopic surgery of a rudimentary horn pregnancy<sup>17</sup>. A single attempt to treat an RHP in a non-communicating horn is by methotrexate and misoprostol<sup>13</sup>. Another report of an RHP misdiagnosed as a tubal pregnancy and treated with methotrexate had to have surgery emergently for rupture of a pregnant horn<sup>18</sup>.

## COMMENTS

Although ultrasonography seems to be a useful tool for the diagnosis of unicornous uterus with a rudimentary horn, it may be so due to inexperienced hands and its rarity. Its' possible to conclude that in any patient presenting with the symptoms of unruptured or rupture ectopic pregnancy, rudimentary horn pregnancy should always be sought upon ultrasonographic examination. The differential diagnosis is utmost important both for the management and reproductive file of the patient, so that a timely intervention can be taken to decrease morbidity and mortality.

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Never hurry and  
never worry!

F.B.White