CASE REPORT

Ruptured rudimentary horn at 22 weeks

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ABSTRACT

Rudimentary horn is a developmental anomaly of the uterus. Pregnancy in a non-communicating rudimentary horn is very difficult to diagnose before it ruptures. A case of undiagnosed rudimentary horn pregnancy at 22 weeks presented to Nizwa regional referral hospital in shock with features of acute abdomen. Chances of rupture in first or second trimester are increased with catastrophic haemorrhage leading to increased maternal and perinatal morbidity and mortality. Management of such cases is a challenge till today due to diagnostic dilemma. Expertise in ultrasonography and early resort to surgical management is life saving in such cases.

Key words: Acute abdomen, collapse, haemoperitoneum, mullerian anomalies, rudimentary horn

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INTRODUCTION

Ruptured rudimentary horn is a life threatening obstetrical emergency encountered frequently in the emergency department where the diagnosis is either missed or delayed. Unicornuate uterus results from abnormal development and fusion of the mullerian ducts usually associated with various degrees of rudimentary horn which may be communicating or non-communicating with the uterine cavity. The connection of the horn with the uterus may be fibrous or fibromuscular. There is no communication between the two cavities in 75% to 90% of the cases and the incidence of pregnancy in non-communicating horn is high as 83% with incidence of uterine rupture observed in 90% of cases mostly in second trimester as was observed in our case.[1,2] The thin muscular wall of the pregnant uterus ruptures early because of under development and poor distensibility of the myometrium.

CASE REPORT

An unusual case of a primigravida married four months back with pregnancy 22 weeks reported to Nizwa regional referral hospital with acute abdominal pain of two hours. On admission she was in shock with pale, cold, clammy extremities, feeble thready pulse 120 beats/minute, blood pressure 78/45 mmHg and respiratory rate 18/min. Patient was known hypothyroid on 50mcg of eltroxin. Abdomen was enlarged to 28 weeks size, tense with generalized acute tenderness all over. A speculum examination did not reveal any cervical or vaginal pathology. Cervical os was tightly closed with no active vaginal bleeding. She was resuscitated with intravenous fluids and blood transfusion. Abdominopelvic ultrasound showed a fetus of 22 weeks with increased free intraperitoneal fluid collection and absent fetal cardiac activity. Uterus with cervix separate from the gestational sac was seen clearly lower down in the pelvis. She was taken for emergency laparotomy with the provisional diagnosis of abdominal pregnancy with fetal death. During laparotomy haemoperitoneum of around three liters of blood with clots was noted. There was complete rupture of left rudimentary horn of the uterus with the dead fetus lying in the intact amniotic sac covered with 1000 gms of clots [Figure 1]. The placenta and cord was attached to the uterine horn. No evidence of placental adherence to the rudimentary horn was observed. The left fallopian tube and left ovary appeared normal and both were attached to the left rudimentary horn [Figure 2]. The fetus within the amniotic sac [Figure 3] along with the placenta and membranes was removed from the abdominal cavity. A fibromuscular band was attached between the unicornuate uterus and the rudimentary horn. There was no communication between the rudimentary horn and the main unicornuate uterine cavity which was confirmed with a probe. The uterus lying separate in the pelvis was soft in consistency, globular and enlarged to 8 weeks size.The right fallopian tube and ovary found healthy were attached normally to the unicornuate uterus. Excision of the rudimentary horn and left fallopian tube with conservation of the left ovary was done. The

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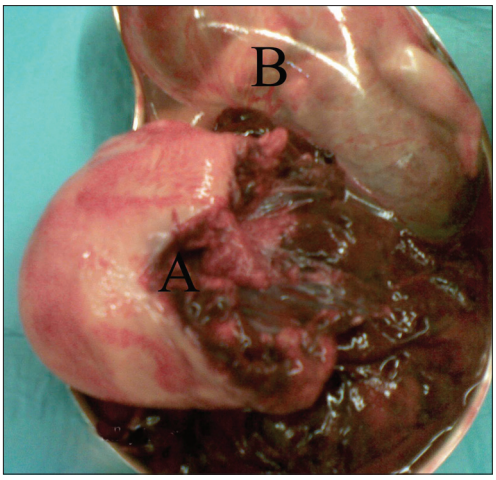

Figure 1: (a) Left ruptured rudimentary horn (b) Fetus in intact amniotic sac

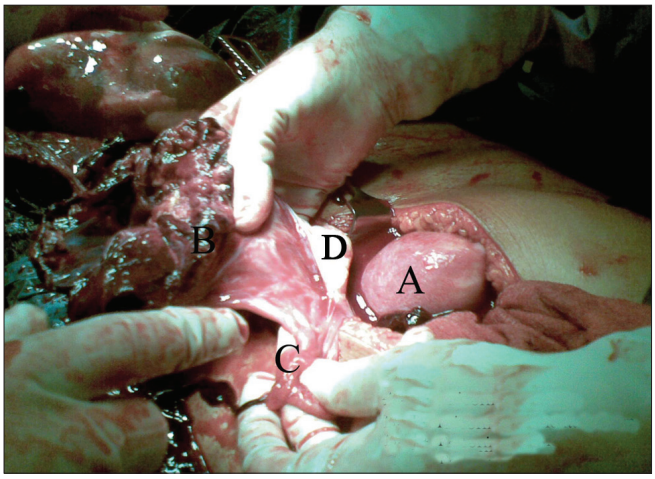

Figure 2: (a) Right unicornuate uterus (b) Left ruptured rudimentary horn (c) Left fallopian tube (d) Left ovary

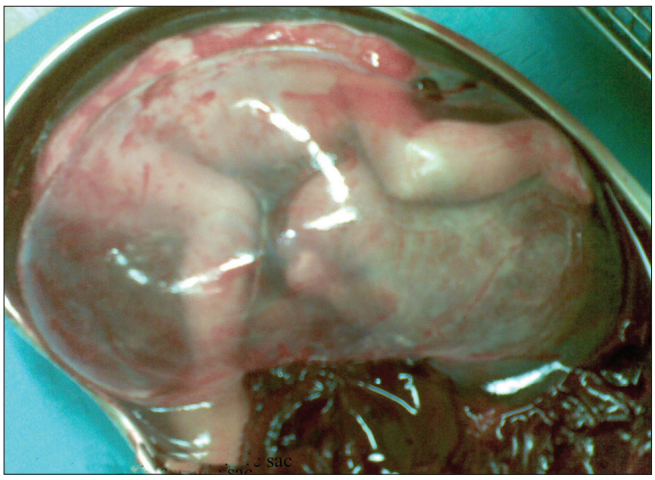

Figure 3: Fetus in intact amniotic sac

specimen was sent for histopathological examination which was reported as "sections from the uterine horn show areas of haemorrhage and necrosis. Section from the fallopian tube morphologically normal. Sections of the placenta show fibrosed chorionic villi with syncitial knots. No villitis seen". Histopathology confirmed ruptured rudimentary horn of the uterus. Follow up appointment was arranged for her with a plan for Intravenous urogram to rule out any associated renal anomalies. She reported after three weeks with complaints of pain abdomen which subsided with mild analgesics. A repeat abdominopelvic ultrasonography followed by CT abdomen and pelvis was found to be absolutely normal. No associated renal anomaly was diagnosed.

DISCUSSION

Obstructive genitourinary malformations may be diagnosed in prepregnancy workup for complaints of dysmenorrhoea, endometriosis, infertility, and for various pregnancy complications like recurrent miscarriages, preterm labor and malpresentations. However if the rudimentary horn is underdeveloped with non-functional endometrium dysmenorrhoea may be absent.The use of ultrasonography, CT scan, magnetic resonance imaging, 3D ultrasound and laparoscopy may be helpful for diagnosing such abnormalities. Buntugu[3] used placement of a Foley's catheter into the uterine cavity prior to performing a transabdominal ultrasound for diagnosing an extrauterine pregnancy although not accepted as a preferred method. The associated urologic anomalies are reported to be as high as 50%-80% due to close approximity of the two systems and must be diagnosed either at laparotomy by palpation or postnatally by magnetic resonance imaging or Intravenous urogram.[4]

Pregnancy in a non-communicating horn of uterus is possible by intraperitoneal sperm and ovum transmigration or contralateral tubal pick up of the fertilized ovum within the peritoneal cavity. The reported incidence of pregnancy in the rudimentary is 100,000 to 140,000 being a rare form of ectopic pregnancy.[5] Rupture of pregnancy in rudimentary horn by second trimester is the most common outcome but silent rupture with continuation of pregnancy as secondary abdominal pregnancy was reported in some studies. Cases of pregnancy progressing to third trimester and resulting in a live birth after caesarean section have also been documented. Pregnancy continued till term as abdominal after ruptured rudimentary horn of a unicornuate uterus and the placenta was attached in part to the myometrium of the horn deriving the blood supply for the live fetus.[6-8] A very unusual case of twin pregnancy in a unicornuate uterus with one fetus in the non-communicating rudimentary horn has been reported where the outcome was successful birth of twins by caesarean section.[4]

Chances of placental adherence are increased due to poorly developed musculature, scant decidualization and small

size of the horn. Magnetic resonance imaging has been a useful preoperative tool for both diagnosing pregnancy in rudimentary horn and any abnormal placentation. Ultrasound has a sensitivity of 33.3% for diagnosing this anomaly and sensitivity reduces with advancing pregnancy adding to the diagnostic dilemma.[1] Sonographic diagnostic criteria suggested by Tsafri[9] are presence of pseudo-pattern of an asymmetrical bicornuate uterus, absent visual continuity between the cervical canal and the lumen of the pregnant horn and the presence of myometrial tissue surrounding the gestational sac.

Immediate surgery is recommended whenever rudimentary horn pregnancy is diagnosed but conservative management until viability is achieved, has been advocated in very select cases with larger myometrial mass where facilities for emergency surgery may be possible any time. A rudimentary horn pregnancy, can never be delivered vaginally and mode of delivery is always a laparotomy both with eventuality of ruptured horn or if pregnancy continues as abdominal post rupture. Surgical removal of the rudimentary horn is mandatory to avoid risk of recurrence of rupture with increased maternal morbidity. However, laparoscopic excision of unruptured rudimentary horn pregnancy has been increasingly carried out with safe and favorable outcome in many expert centers now.[10]

CONCLUSION

A careful examination of the uterus by experienced obstetrician in every case suspected as mullerian anomaly may help to avoid misdiagnosis and catastrophic haemorrhage. High clinical suspicion, early diagnosis and timely laparotomy can reduce maternal and perinatal mortality and morbidity.

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