

A rare case of ruptured cornual pregnancy

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ABSTRACT

Introduction

Hemi uterus with non-communicating rudimentary horn is a type of vertical fusion defect Mullerian anomaly. Incidence of Hemi uterus with rudimentary horn is 1:40,000. It has a high incidence of rupture (50%-90%) resulting in torrential hemorrhage and is potentially life threatening if not diagnosed or treated early.

Methods

Data regarding history, clinical features and operative procedures was retrieved from patient admission files, OT registers and MRD. Informed consent was taken from the patient for publishing data and intra operative stills.

Results and Discussion

Pregnancy with Hemi uterus has poor re-productive potential & a guarded prognosis. The possibility of a catastrophic outcome is greater as compared to other sites of ectopic implantation. The sensitivity of plain 2D USG is inferior to other modalities of investigations such as 3D USG and MRI. Females of reproductive age having dysmenorrhea, infertility, recurrent abortions should be screened for Mullerian anomalies. The condition usually remains inconspicuous until the occurrence of rupture which can occur anytime between 5th to 35th weeks of gestation. Surgical intervention is inevitable in the event of rupture and excision of the ruptured horn is the standard operative procedure. Conservation of ovarian function should be otherwise done.

Conclusion

Early diagnosis and timely management can offer positive outcome. An element of suspicion and screening of patients presenting with history of severe dysmenorrhoea, infertility, multiple abortions and preterm deliveries in a non-gravid state can prove to be a game changer.

Key words: Haemorrhage, Mullerian anomalies, Ruptured horn ectopic.

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INTRODUCTION

Hemi uterus with non-communicating rudimentary horn is a type of vertical fusion defect Mullerian anomaly. Incidence of Hemi uterus with rudimentary horn is 1:40,000.ⁱ Incidence of conception in rudimentary horn (cornual pregnancy) is rare around 1:75000 to 1:1,50,000.ⁱⁱ It has high incidence of rupture (50%-90%) resulting in torrential hemorrhage and is potentially life

threatening if not diagnosed or treated early. According to ESHRE 2013 guidelines Class U₄ = hemi uterus, incorporates all cases of unilateral formed uterus class U_{4a} or hemi uterus with a rudimentary (functional) cavity characterized by the presence of a communicating or noncommunicating functional contralateral horn.ⁱⁱⁱ

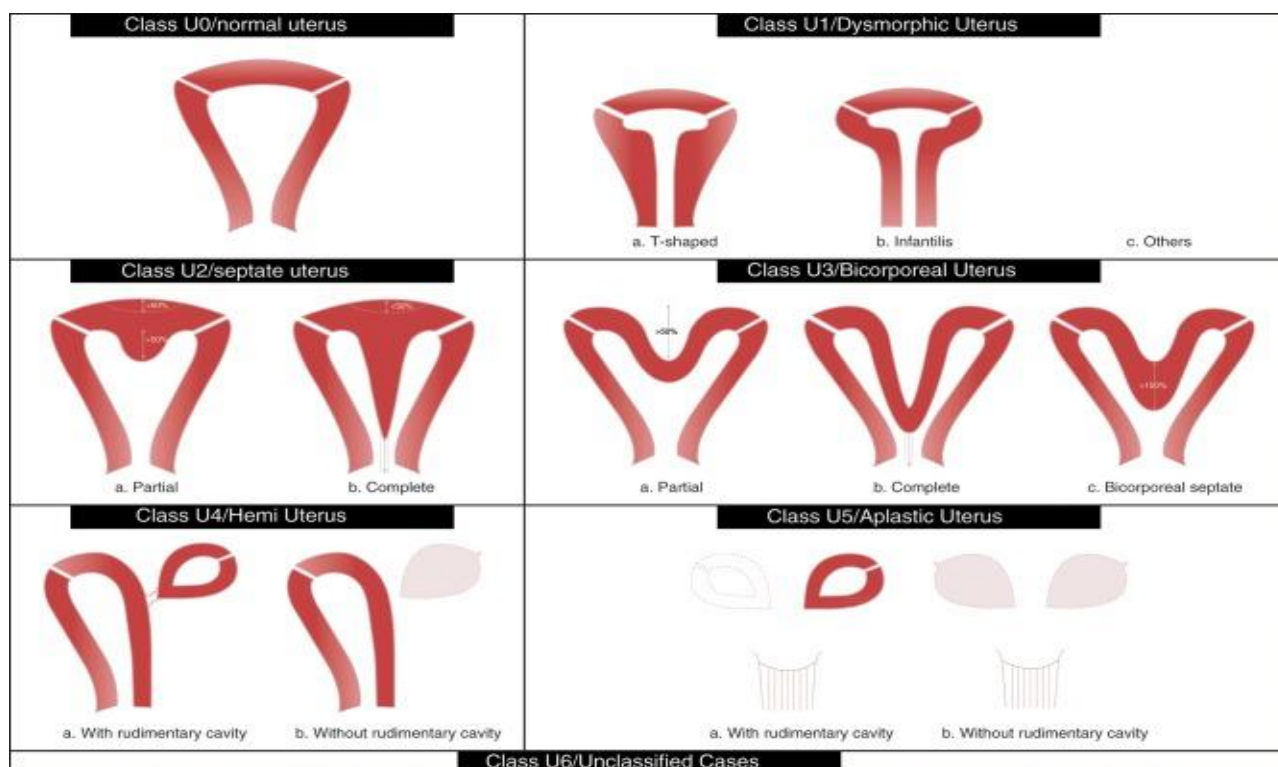


Figure 1: - ESHRE/ESGE classification of uterine anomalies: schematic representation (Class U₂: internal indentation >50% of the uterine wall thickness and external contour straight or with indentation <50%, Class U₃: external indentation >50% of the uterine wall thickness, Class U_{3b}: width of the fundal indentation at the midline >150% of the uterine wall thickness)^{iv}

Possible mechanism of conception is transperitoneal transfer of sperms.^v This condition can be easily missed on USG and proves to be a

diagnostic dilemma. Majority of patients are diagnosed after rupture.

CASE REPORT

A 19-year-old primigravida reported with h/o amenorrhea of 16 weeks and acute onset of severe abdominal pain. On her way to the hospital, she collapsed. Patient presented with hypovolemic

shock. On examination GC was poor. MEOWS score was 7, EWS score was 6. Severe pallor was present. Patient had tachycardia of 150 bpm and hypotension of 90 mm/hg. Abdominal



examination showed distension with generalised tenderness, rigidity and guarding. P/V examination revealed single closed OS, bilateral forniceal tenderness, cervical motion tenderness and no bleeding. Exact size of uterus could not be made out because of large hemoperitoneum. She was resuscitated and taken up for emergency laparotomy. Pre-operative haemoglobin was 6.2gm%, total wbc count was 28,200 /microlitres and platelets were 3 lakhs. Fibrinogen was 260 mg/dl. Intra-operatively there was 2000ml hemoperitoneum in abdominal cavity with rupture of left rudimentary horn and placenta attached to it. Foetus was lying in peritoneal cavity. Right uterine horn, tube and ovary were normal. Ruptured rudimentary horn showed a large defect, so immediate decision of horn excision was taken. One cycle of massive transfusion (4 PCV, 4 Platelets, 4 FFP and 10 cryoprecipitate) was given. Patient recovered uneventfully and was discharged on 9th post-operative day. She was followed up after 1 month and was convalescing well.

DISCUSSION

Pregnancy with Hemi uterus has poor reproductive potential & requires close monitoring with more chances of morbidities and mortalities than other ectopic pregnancies. USG has a low sensitivity of 26% in diagnosing such cases prior to clinical manifestation, which is why majority of these cases are diagnosed after rupture ensues. Rupture can occur anytime between 5th to 35th weeks of gestation. Chang et al reported a case of rudimentary horn rupture at 25th weeks of gestation. The most common site of rupture is at the fundus in these cases. The thin muscular wall of the pregnant horn increases the risk of the horn ruptures.^{vi} Rupture of horn occurs due to underdevelopment of myometrium and dysfunctional endometrium. Rudimentary horn pregnancy can be further complicated by placenta percreta due to poorly developed musculature and small size of the horn. The incidence reported is 11.9%.^{vii} Mullerian anomalies can be successfully diagnosed with the help of 3D ultrasound and pelvic MRI. Certain diagnostic features have been

proposed in MRI to identify these patients before they culminate into rupture.

1. pseudo pattern of asymmetrical Hemi uterus
2. absent visual continuity between cervical canal and lumen of pregnant horn
3. the presence of myometrial tissue surrounding the gestational sac.^{viii,ix,x}

Adolescent girls complaining of severe dysmenorrhea, menorrhagia and features of endometriosis should be evaluated for exclusion of Mullerian anomalies. In the present case, rupture occurred at 16 weeks in a primi- unscarred uterus. The incidence of a live salvageable fetus is scarcely mentioned in literature. Brad Nitzche et al from United States reported a case of rupture in a communicating Hemi uterus at 37 weeks gestation with a live male baby of 2.6kg weight. Most rudimentary horn ectopic ruptures result in non-viable pregnancies. The standard treatment involves removal of the rudimentary horn and leaving the normal one behind. Ipsilateral salpingectomy and ovarian conservation should be considered in women desiring to conserve their fertility potential.^{xi} The condition of bi-lateral adnexa should be assessed at the same time during laparoscopy or laparotomy. Pregnancy should be avoided for at least a year and all future pregnancies should be appropriately monitored and delivered at well-equipped medical facilities. A similar case has been reported of a ruptured horn as early as 11 weeks, and managed surgically.^{xii}

CLINICAL RELEVANCE

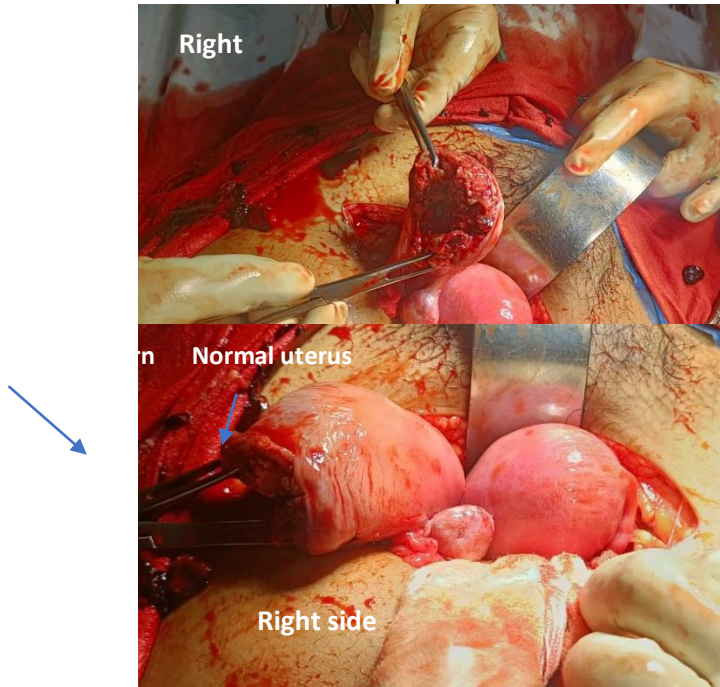
Early diagnosis and a high degree of clinical suspicion is the key for optimal outcome.

CONCLUSION

Uterine rupture can occur in first or second trimester (early pregnancy) when associated with uterine anomaly. Diagnosis of this condition in adolescence and reproductive age women before pregnancy can avoid life-threatening complications. Surgical intervention should not be delayed in ambiguous situations. A multidisciplinary approach in critical circumstances can be life-sustaining.



ILLUSTRATIONS
Intra-operative stills





REFERENCES

1. Sfar E, Zine S, Bourghida S, Bettaieb A, Chelli H. Pregnancy in a rudimentary uterine horn: main clinical forms. 5 cases. *Revue Francaise de Gynecologie et D'obstetrique*. 1994 Jan 1;89(1):21-6.
2. Byun Y. Maternal surgery or anesthesia use during pregnancy and the risk of adverse birth outcomes in the National Birth Defects Prevention Study, 1997-2009. State University of New York at Albany; 2016.
3. Grimbizis GF, Gordts S, Di Spiezio Sardo A, Brucker S, De Angelis C, Gergolet M, Li TC, Tanos V, Brölmann H, Gianaroli L, Campo R. The ESHRE/ESGE consensus on the classification of female genital tract congenital anomalies. *Human reproduction*. 2013 Aug 1;28(8):2032-44.
4. Grimbizis GF, Gordts S, Di Spiezio Sardo A, Brucker S, De Angelis C, Gergolet M, Li TC, Tanos V, Brölmann H, Gianaroli L, Campo R. The ESHRE/ESGE consensus on the classification of female genital tract congenital anomalies. *Human reproduction*. 2013 Aug 1;28(8):2032-44.
5. Hema SP, Neha G. Ruptured ectopic pregnancy in the rudimentary horn of bicornuate uterus: a case report. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2014 Mar 1;3(1):248-51.
6. Tsafirir A, Rojansky N, Sela HY, Gomori JM, Nadjari M. Rudimentary horn pregnancy: First-trimester prerupture sonographic diagnosis and confirmation by magnetic resonance imaging. *Journal of Ultrasound in Medicine*. 2005 Feb;24(2):219-23.
7. Jain R, Gami N, Puri M, Trivedi SS. A rare case of intact rudimentary horn pregnancy presenting as hemoperitoneum. *Journal of human reproductive sciences*. 2010 May 1;3(2):113-5.
8. Buntugu KA. Rudimentary horn pregnancy: pre-rupture diagnosis and management. *Ghana medical journal*. 2008;42(2).
9. Okonta PI, Abedi H, Ajuyah C, Omo-Aghoja L. Pregnancy in a noncommunicating rudimentary horn of a unicornuate uterus: a case report. *Cases Journal*. 2009 Dec; 2:1-3.
10. Tsafirir A, Rojansky N, Sela HY, Gomori JM, Nadjari M. Rudimentary horn pregnancy: First-trimester prerupture sonographic diagnosis and confirmation by magnetic resonance imaging. *Journal of Ultrasound in Medicine*. 2005 Feb;24(2):219-23.
11. Mbeng LO. Informal waste recovery and recycling: alleviating poverty, environmental pollution and unemployment in Douala, Cameroon.
12. Tochie JN, Tcheunkam LW, Tchakounté C, Fobellah NN, Cumber SN. First-trimester rupture of a gravid Hemi uterus after prior vaginal deliveries, simulating a ruptured ectopic pregnancy: a case report. *Journal of Surgical Case Reports*. 2020 Oct;2020(10): rjaa366