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**Case Report**

# Rupture of gravid rudimentary horn

**Diti Anand, Shital Shivajirao Dukare*, Kananbala Avinash Yelikar, Prashant E. Bhingare, Shrinivas N. Gadappa**

Department of Obstetrics and Gynecology, Government Medical College & Hospital, Chhatrapati Sambhajinagar. Maharashtra, India

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***Correspondence:**
Dr. Shital Shivajirao Dukare,
E-mail: shitaldukre1234@gmail.com



## ABSTRACT

Pregnancy in rudimentary horn is a rare occurrence with incidence of less than 1 in 150,000. Pregnant rudimentary horn can present with wide range of symptoms that may be similar to ectopic pregnancy or may remain silent with features of normal pregnancy. Management is typically resection of the rudimentary horn by either laparotomy or laparoscopy. This case has been reported for its rarity and dilemma in diagnosis which is a case of a 21 years old, married since 1 year primigravida nullipara presented with 3 and half month amenorrhea with acute abdomen since 2 days. Her vitals were stable with severe anaemia (Hb 5 gm%). Her obstetric USG showed features of 14 weeks foetus in probably rudimentary horn on left side. Right sided horn showed normal endometrial thickness. Patient's emergency laparotomy was done with excision of rudimentary horn containing the pregnancy. The wall of rudimentary horn showed rupture with hemoperitoneum 200 ml. To conclude, uterine abnormalities are rarely encountered in pregnancy. Attempts should be made for early diagnosis to avoid maternal mortality. Ultrasound in the first trimester may provide a means of an early diagnosis. It requires proper history, high level of suspicion, routine early pregnancy scan and documentation of operative findings. Rudimentary horn pregnancy should always be kept as differential diagnosis in early second trimester pregnancy with acute abdomen.

**Keywords:** Bicornuate uterus, Rupture uterus, Rudimentary uterine horn pregnancy

## INTRODUCTION

Pregnancy in rudimentary horn is rare occurrence with incidence of less than 1 in 150,000.[1] The incidence of uterine malformation to be 3-5% in general population. Bicornuate uterus is rare uterine anomaly, resulting from incomplete fusion of the two mullerian ducts during embryogenesis.[2,3] A bicornuate uterus is estimated to occur in 0.1%-0.5% of women. The incidence of bicornuate uterus is approximately 25% among the mullerian duct anomalies.[4] Rudimentary uterine horn (RUH) pregnancy in bicornuate uterus is a rare and serious type of ectopic pregnancy and is very difficult to diagnose due to a lack of typical clinical symptoms at the early stage.[5] The clinical manifestations are nonspecific, which makes diagnosis difficult in countries with a weak technical platform. Many of them remain asymptomatic and the diagnosis is made only incidentally during an examination performed for another purpose. Thus, it is not exceptional to discover a bicornuate uterus during a first pregnancy check-up or during a vaginal or caesarean delivery.[6] The uterine anomalies are evaluated by investigative modalities like transvaginal ultrasound, Sono hysterography, hysterosalpingography, magnetic resonance imaging (MRI) and hysteroscopy. Recently 3D ultrasonography has been advocated as an excellent method to evaluate uterine malformations.[7] A bicornuate uterus is associated with obstetric complications such as recurrent pregnancy loss, preterm labor and malpresentation.[8] We present a case of a 21 years old

married since 3 years primigravida nullipara with 14 weeks gestation with acute abdomen.

## CASE REPORT

### *Patient information*

A 21 years old primigravida married since 3 years presented to our hospital with 3 and half month amenorrhea with acute abdomen, pain gradually increasing over 2 days.

### *Clinical finding*

On general examination she looked pale with tachycardia of 110 bpm, BP-120/70 mmHg, other systemic examination was normal. On per abdominal examination, there was 12-14 weeks of gravid uterus with diffuse abdominal pain, tenderness at left lower iliac region. On per vaginal examination, no bleeding PV, cervical motion tenderness was present with fullness of the fornix on left side.

### *Diagnostic assessment*

Routine investigations were done and the haemoglobin of 5 gm/dl was detected. Obstetric ultrasound examination revealed unruptured ectopic pregnancy likely in rudimentary horn of bicornuate uterus with G sac containing single live foetus of CRL 7.7 cm. corresponding to 13 weeks 5 days with presence of fetal heart activity. Her renal ultrasound was normal. Patient was taken for exploratory laparotomy in view of unruptured ectopic pregnancy after supply of 3 pint PRBC and stabilisation of patient. Intraoperatively, bicornuate uterus was present with rupture of the left rudimentary horn of the uterus with single live fourteen weeks foetus with 200 ml of hemoperitoneum. The rudimentary horn was excised with placenta in situ and abortus and closed with vicryl 1-0. Abdominal wash with normal saline given and haemostasis confirmed. Vitals were monitored regularly and was discharged on post operative day 5.

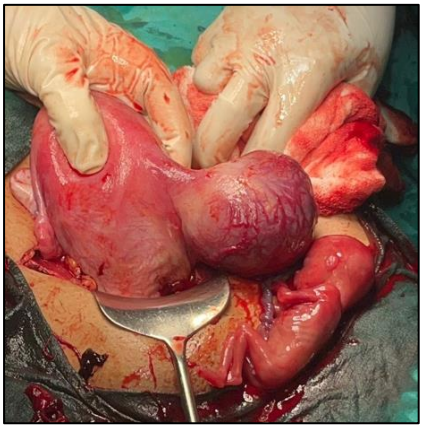

**Figure 1: Bicornuate uterus with rupture of rudimentary horn.**

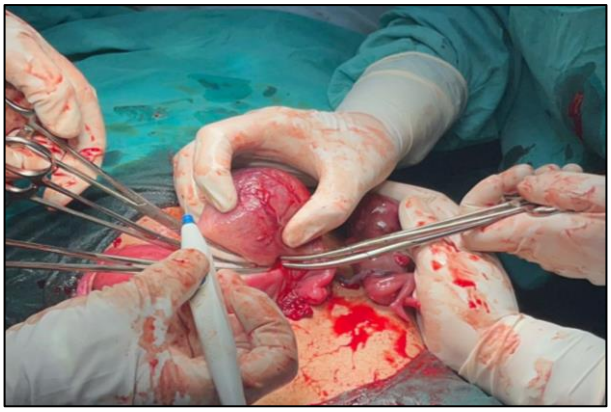

**Figure 2: Resection of rudimentary horn.**

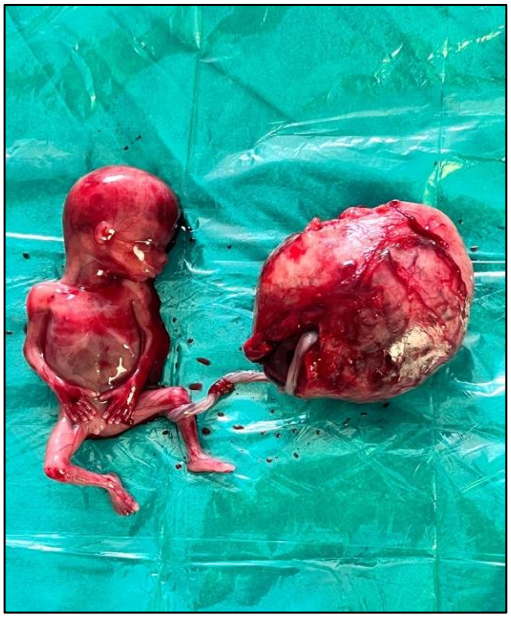

**Figure 3: Foetus/abortus with resected ruptured rudimentary.**

## DISCUSSION

Pregnancy in a bicornuate uterus has a poor reproductive potential and requires close monitoring.[9] Normally, it ends in the spontaneous rupture of rudimentary horn pregnancy with the clinical presentation of ectopic pregnancy. Rupture in such cases occurs because of inability of malformed uterus to expand as a normal uterus.[10] The walls of the anomalous uteri tend to become abnormally thin as pregnancies advances. Thickness can be inconsistent over different aspects of the myometrium, and the placenta does not adhere properly.[11] The rupture in rudimentary horn is likely to occur in late first trimester or at beginning of second trimester. Rarely pregnancy can go on till late second trimester before rupturing. The haemorrhage occurring because of rupture is massive and can be life threatening, unless diagnosed and treated promptly.[12] Our patient came in emergency with the history of three and half month's amenorrhea with pain in abdomen and her ultrasound report showed findings of

ectopic rudimentary horn pregnancy. Intraoperatively, there was evidence of ruptured rudimentary gravid horn. In asymptomatic women, the presence of bicornuate uterus may not be detected until during pregnancy or delivery.[13,14] Diagnosis of uterine anomaly, like bicornuate uterus in the first and second trimester is very essential. Routine ultrasonography at 1st trimester in all antenatal clinics may help in early diagnosis, i.e., before rupture. MRI imaging is also a non-invasive diagnostic method. More recently 3-D ultrasonography has been advocated as an excellent non-invasive method to evaluate these malformations.

Early diagnosis will decrease the mortality and morbidity associated with rapid and massive hemoperitoneum occurring because of rupture. Achiron et al, reported two cases of singleton pregnancy in rudimentary horn diagnosed by USG before rupture.[15] Treatment usually involved is resection of the ruptured horn. Since the scar is present on the uterus, it is important to avoid pregnancy for at least 1 year. If pregnancy occurs it is to be carefully monitored with early hospitalization and elective caesarean section. Repeated follow up during and after the pregnancy is required despite the outcome of the pregnancy.

## CONCLUSION

Usually uterine anomalies are accompanied with adverse pregnancy outcome. Attempts should be made for early diagnosis to avoid maternal morbidity and mortality. Ultrasound in the first trimester and second trimester may provide a means of early diagnosis. To conclude it requires proper history, high level of suspicion, routine early pregnancy scan and documentation of operative findings. Rudimentary horn pregnancy should always be kept as differential diagnosis in early second trimester pregnancy with acute abdomen.

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## REFERENCES

1. Moawad GN, Abi Khalil ED. A Case of recurrent rudimentary horn ectopic pregnancies managed by methotrexate therapy and laparoscopic excision of the rudimentary horn. Case Rep Obstet Gynecol. 2016;5:524.
2. Raga F, Bauset C, Remohi J, Bonilla Musoles F, Simón C, Pellicer A. Reproductive impact of congenital Müllerian anomalies. Hum Reprod. 1997;12:2277-81.
3. Acién P. Incidence of Müllerian defect infertile and infertile women. Hum Reprod. 1997;12:1372-6.
4. G.B.Madhav. An Unusual Case of Rupture of Left Horn of Bicornuate Uterus at Twelve Weeks of Gestation. J Chalmeda Anand Rao Institute of Medical Sciences. 2014;8(2):2278-5310.
5. Nahum GG. Rudimentary uterine horn pregnancy. The 20th-century worldwide experience of 588 cases. J Reprod Med. 2002;47(2):151–63.
6. Mezane S, Achenani M, Benabdjalil Y, Ziyadi M, Hafidi R, Hakimi I, et al. Grossesse Sur Utérus Bicorne Menée à Terme À propos D´un Cas Avec Revue De La Littérature. Global Journal of Medical research: E Gynecology and Obstetrics. 2014;14:3.
7. Salim R, Jurkovic D. Assessing congenital uterine anomalies: the role of three-dimensional ultrasonography. Best Pract Res Clin Obstet Gynaecol. 2004;18:29-36.
8. Vaz SA, Dotters-Katz SK, Kuller JA. Diagnosis and management of congenital uterine anomalies in pregnancy. Obstet Gynecol Surv. 2017;72(3):194–201.
9. Chan YY, Jayaprakasan K, Tan A, Thornton JG, Coomarasamy A, Raine-Fenning NJ. Reproductive outcomes in women with congenital uterine anomalies: a systematic review. Ultrasound Obstet. Gynecol. 2011;38:371-82.
10. Kore S, Pandole A, Akolekar R. Rupture of left horn of bicornuate uterus at twenty weeks of gestation. J Postgrad Med. 2000;46:39–40.
11. Ashelby L, Toll G, Patel RR. Live birth after rupture of a non-communicating horn of a bicornuate uterus. BJOG. 2005;112:1576–7.
12. Jayaprakash S, Muralidhar L, Sampathkumar G, Sexsena R. Rupture of bicornuate uterus. BMJ Case Rep. 2011;28:4633.
13. Singh N, Singh U, Verma ML. Rupture bicornuate uterus mimicking ectopic pregnancy: A case report. J Obstet Gynecol Res. 2013;39(1):364–6.
14. Tsafrir A, Rojansky N, Sela HY, Gomori JM, Ndjari M. Rudimentary horn pregnancy: First-trimester prerupture sonographic diagnosis and confirmation by magnetic resonance imaging. J Ultrasound Med. 2005;24(2):219–23.
15. Achiron R, Tadmor O, Kamar R. Prerupture ultrasound diagnosis of interstitial and rudimentary uterine horn pregnancy in the second trimester: a report of two cases. J Reprod Med. 1992;37:89–92.

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