A Case Report

Pregnancy in a Non-Communicating Rudimentary Horn - Medical Emergency and A Near Miss

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Abstract: Rudimentary horn is a life-threatening entity with a 50% risk of uterine rupture. It usually ruptures during the first or second trimester of pregnancy resulting in major obstetrical catastrophe. We report this case because of rarity of pregnancy in rudimentary horn and even rarer having presented in a woman with previous four normal deliveries.

Key Words: Rudimentary Horn, Acute abdomen

Introduction:

Rudimentary horn is one of the rare congenital uterine anomalies resulting from incomplete fusion of the two Müllerian ducts during embryo-genesis. The estimated incidence of rudimentary horn pregnancy is one in 76,000.[1] It is a life-threatening entity with a 50% risk of uterine rupture. [1]Rudimentary horn pregnancy usually ruptures during the first or second trimester of pregnancy resulting in major obstetrical catastrophe. It results from failure of complete development of one of mullerian ducts and incomplete fusion with the contralateral side. In 83% cases the horn is non-communicating.[2] We report this case because of rarity of pregnancy in rudimentary horn and even rarer having presented in woman with previous four normal deliveries.

Case Summary:

32 years old female $G_5P_4L_4$, with CR No. 8561 was referred from medical emergency of Govt. Medical College and Rajindra Hospital Patiala on 20thFeb.2017 with acute pain abdomen & vomiting. She had amenorrhoea of 1month and 19 days. There was no history of bleeding per vaginum or any symptoms s/o systemic illness. She had history of 4 living issues all delivered vaginally last child one year old. There was no contributing medical or surgical history. Her general condition was poor and was in hypovolemic shock. Her pulse was 126 bpm, low volume, blood pressure 82/64 mm Hg & respiratory rate was 36/min. The abdomen was distended, tense & tender with guarding & rigidity. Urine for pregnancy was positive.

A diagnosis of an acute abdomen with hemoperitoneum from a possible ruptured extra uterine pregnancy was made. Baseline investigations were sent and patient was immediately taken up for emergency laparotomy, after written and informed consent from patient and relatives. She was transfused 2 units of packed cells and another two kept stand by. Peroperative the peritoneal cavity was full of altered blood. The uterus was unicornuate with 7*5 cm left sided ruptured rudimentary horn with placental tissue attached. The cavity of horn did not communicate with uterine cavity. The right fallopian tube and ovary were found to be normal. The left fallopian tube was of normal length and attached to rudimentary horn. The left ovary was normal and attached by ligament to rudimentary horn. The horn was excised with the placental tissue intact and complete haemostasis achieved. The gross findings were suggestive of second trimester rupture, so a search for fetus in the peritoneal

cavity was made & a 14 week male foetus lying ensac in the peritoneal cavity was removed. Right side tubal ligation was done. The patient was transfused 2 more packed red cells and four fresh frozen plasma. Her preopHb was 4.9 g%, WBC: 21600/µL with 83 % neutrophils, platelets 2.4 lac/ µL S. Creatinine: 1.2 mg/dl, liver function tests and coagulation profile were normal.

Her condition deteriorated after one day and she developed acute respiratory distress syndrome and so was shifted to Intensive care unit (ICU) and had to be put on ventilator. She was weaned off after 5 days. Gradually her condition improved, was shifted back from ICU and was discharged on 12th post-operative day in satisfactory condition. Her ultrasound KUB and X Ray spine was normal.

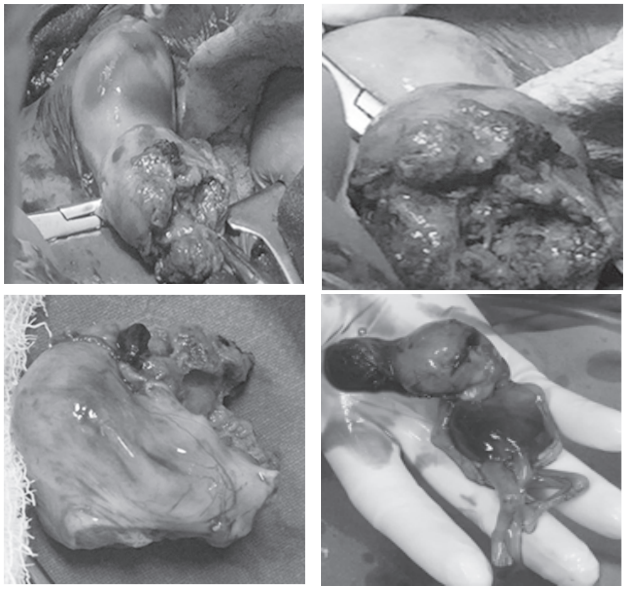

Figure 1,2: Ruptured Non communicating Rudimentary Horn ; Figure 3: Resected rudimentary horn ; Figure 4 : Fetus which was lying in the peritoneal cavity.

Discussion:

Abnormalities in the formation or fusion of the mullerian ducts can result in a variety of anomalies of uterus and vagina.[3] Unilateral hypoplasia of mullerian duct resulting from disorders of lateral fusion is a congenital anomaly resulting in a unicornuate uterus. This developmental anomaly is classified further as unicornuate with either a rudimentary horn or without; the one with rudimentary horn is further classified as with endometrial cavity which may be either communicating or non communicating and without endometrial cavity.[3,4] Mariceau and Vassal published the first description of a rudimentary horn pregnancy in 1669 [5] and ever since multiple cases have been reported. Pregnancy in non-communicating rudimentary horn is a rare and has been reported to occur in 1/100,000 to 1/140,000 pregnancies.[6] Ours was even rare case as patient had already 4 previous normal vaginal deliveries. When we did emergency ultrasound of our patient, gross hemoperitoneum was present with adnexal mass 6 x 6 cm, which we suspected to be ruptured ectopic pregnancy.

Implantation in rudimentary horn occurs following transperitoneal migration of sperm or zygote.[7,8] These pregnancies usually end up in spontaneous abortions. The risk of uterine rupture is 50–90%, with most 80 % of rudimentary horn ruptures occurring by the end of the second trimester and only 30 % reaching upto term. [5,6]

One should have striong clinical acumen to diagnose this ectopic gestation. On clinical examination in a case of unruptured gestation, sometimes a mass might be felt extending outside the uterine angle on bimanual examination (*Baart de la Faille's sign*) or fundus of the uterus might be found displaced to the contralateral side with rotation of the uterus and elevation of the affected horn (*Ruge Simon syndrome*) [9]

Although rudimentary horn pregnancy can be diagnosed by ultrasonography, In 74 % of cases the diagnosis is often missed, and sensitivity of sonography which is 30 % in prerupture diagnosis decreases as pregnancy advances beyond first trimester.[10-12]. When we did emergency ultrasound of our patient, gross hemoperitoneum was present with adnexal mass 6 x 6 cm, which we suspected to be ↑chronic tubal ectopic, ↑acute ectopic with collection.

Tsafrir et al.[13] described certain criteria for diagnosis of rudimentary horn pregnancy on ultrasonography which included (1) a pseudo pattern of asymmetrical bicornuate uterus; (2) absent visual continuity tissue surrounding the gestation sac and the uterine cervix; (3) presence of myometrial tissue surrounding the gestation sac; They further stated that typical hypervascularization of placenta accreta may support the diagnosis.

But all these clinical and diagnostic aids

fail when patient presents with rupture of rudimentary horn, and more often they present in shock due to massive blood loss as mostly they present with midtrimester rupture. High degree of suspicion and clinical analysis helps aid diagnosis in that case, as someone has rightly said " Eye sees what the mind knows"

The preoperative diagnosis is provided in only 22% gynecologic and 29% obstetric cases, so most diagnoses are confirmed only after laparotomy.[14]. As in our case, it was only intraoperatively when we realized that the ectopic site of gestation was actually a ruptured rudimentary horn. Prompt decision and timely intervention saved the life of the patient.

Conclusion:

Cited as one of the very rare forms of ectopic gestation, pregnancy in a rudimentary horn of uterus carries with it high incidence of maternal morbidity and mortality. However, quick, methodical and timely management helps improve the prognosis of the patient and thereby future outcome.

Conflict of Interest: None

References:

1. Lai YJ et al Pregnancy in a noncommunicating rudimentary horn of a unicornuate uterus: Prerupture diagnosis and managementin *Taiwan J Obstet Gynecol*. 2016 Aug;55(4):604-6.
2. Heinonen PK. Unicornuate uterus and rudimentary horn. *Fertilsteril*. 1997;
3. Lesley L. Breech et al in Surgery for anomalies of the mullerian ducts in *TeLinde's Operative Gynecology* 11th/e 2015:505-10 ©wolters Kluwer
4. The American Fertility Society classifications of adnexal adhesions,distal tubal occlusion, tubal occlusion secondary to tubal ligation, tubal pregnancies, mulerian anomalies and intrauterine adhesions. *FertilSteril* 1988;49:944
5. Thakur S, Sood A, Sharma C. Ruptured Noncommunicating Rudimentary Horn Pregnancy at 19 Weeks with Previous Cesarean Delivery: A Case Report. *Case Reports in Obstetrics and Gynecology.* 2012;2012: 308476. doi:10.1155/2012/308476.
6. Nahum GG. Rudimentary uterine horn pregnancy: the 20th-century worldwide experience of 588 cases. *Journal of Reproductive Medicine for the Obstetrician and Gynecologist*. 2002;47(2):151–163.
7. 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;2:6624. doi:10.1186/1757-1626-2-6624.
8. O'Leary JL, O'Leary JA. Rudimentary horn pregnancy. *Obstet Gynecol*. 1963;22:371
9. Goel P, Aggarwal A, Devi K, et al. Unicornuate uterus with non-communicating rudimentary horn: different clinical presentations. *J ObstetGynecolIndia*. 2005;55:155–158.
10. Chopra S, Keepanasseril A, Rohilla M, Bagga R, Kalra J, Jain V. Obstetric morbidity and the diagnostic dilemma in pregnancy in rudimentary horn: retrospective analysis. *Archives of Gynecology and Obstetrics*. 2009;280(6):907–910
11. Jayasinghe Y, Rane A, Stalewski H, Grover S. The presentation and early diagnosis of the rudimentary uterine horn. *Obstetrics and Gynecology*. 2005;105(6) :1456–1467.
12. Feteh VF, Dimala CA, Njim T, Fuka B. Post term pregnancy in a non-communicating rudimentary horn of a unicornuate uterus. *BMC Research Notes*. 2016;9:209. doi:10.1186/s13104-016-2013-7.
13. Tsafrir A, Rojansky N, Sela HY, Gomori JM, Nadjari M. Rudimentary horn pregnancy: first-trimester prerupturesonographic diagnosis and confirmation by magnetic resonance imaging. *J Ultrasound Med*. 2005;24:219–223.
14. Cheng C, Tang W, Zhang L, et al. Unruptured pregnancy in a noncommunicating rudimentary horn at 37 weeks with a live fetus: a case report. *Journal of Biomedical R Research*. 2015;29(1):83-86. doi:10.7555 /JBR.29.20130089.