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Spontaneous Rupture Of Noncommunicating Rudimentary Horn Pregnancy Presenting As Medical Emergency

Dr Rama Garg[1], Dr Parneet Kaur[2], Dr Surbhi Saini[3]
[1]Assistant Professor,Dept of Obs &Gynae, Government Medical College, Patiala, India
[2]Professor, Dept of Obs &Gynae, Government Medical College,Patiala,India
[3]Junior resident, Dept of Obs &Gynae, Government Medical College, Patiala, India

Abstract: ***Pregnancy in a noncommunicating rudimentary horn of the uterus is extremely rare and usually terminates in rupture during first or second trimester of pregnancy.Diagnosis of such cases with prior vaginal delivery is difficult. It can be missed in routine ultrasonograms and in majority is detected after rupture. 30 year old P3L1S2 presented to the Emergency Medical Ward with an acute abdomen and shock. Surgical and gynaecological advice was seeked, a provisional diagnosis of ruptured ectopic pregnancy made as the patient gave history of over the counter consumption of abortion pills a month ago. At laprotomy a unicornuate uterus with ruptured noncommunicating rudimentary horn was seen with massive hemoperitoneum. The need for high index of suspicion is recognized in such cases.The incidence is estimated at 1 per 100000 to140000 pregnancies.There are no definitive clinical criteria to detect this life threatening condition specially when it mimics other medical and surgical emergencies.***

Key words: unicornuate uterus, non communicating, rupture uterus

I. INTRODUCTION

Rudimentary horn with a unicornuate uterus results from failure of complete development of one of the mullerian ducts and incomplete fusion with the contralateral side. In 83% of cases the rudimentary horn is non-communicating[1]. Pregnancy in a noncommunication rudimentary horn is extremely rare and usually terminates in rupture during first or second trimester of pregnancy[2], Diagnosis of rudimentary horn pregnancy and its rupture in a woman with prior vaginal delivery is difficult. It can be missed in routine ultrasound scan and in majority of cases it is detected after rupture. It requires a high index of suspicion due to its rarity and varied presentation. Here we present one such rare case who presented in the Medical Emergency.
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II. CASE REPORT

A 30 year old lady, vide C.R. 6022, was admitted in the Medical Emergency, Government Medical College and Rajindra Hospital, Patiala on 18.02.16 with acute pain abdomen and vomiting for two days but no history of fever, breathlessness or chest pain.

On admission, her general condition was poor with tachycardia and hypotension. Abdomen was distended with diffuse tenderness but no pallor. A call to the surgeon was sent. On paracentesis there was frank blood in the peritoneal cavity and the gynaecologist was called upon immediately.

On eliciting the history, she was found to be mother of a single living child and had two subsequent preterm still births. Her last child birth was one and a half years ago. Her last menstrual period was on 20.01.16. On further probing, it was revealed that she had taken abortion pill from over the counter following a three months period of amenorrhoea which had caused two days of vaginal bleeding misinterpreted by the patient as her last menstrual period. There was no subsequent surgical intervention.

The abdomen on examination was distended and tender. On Per vaginal examination, thick curdy white discharge was present and the cervix admitted the tip of finger. Uterine size could not be made out with precision due to tender and distended abdomen. Cervical motion tenderness was present with fullness in the left vaginal fornix. Paracentesis done earlier showed altered blood in the peritoneal cavity.

The urine pregnancy test was negative. After the necessary biochemical investigations the patient was taken upfor an emergency laprotomy in the Surgical OT in suspicion of a ruptured ectopic pregnancy with shock. Two venesections were done and blood transfusion started.

On entering the peritoneal cavity,a massive hemoperitoneum of around three litres was drained along with a fetus of around 14-16 weeks gestational age with an intact umbilical cord and placenta, Fig(i).

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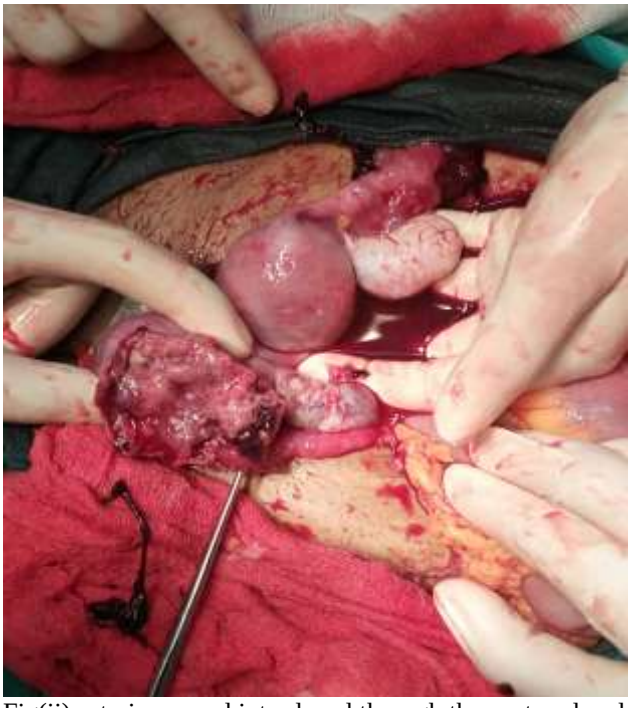
Fig (i)- fetus of 14-16 weeks gestational age with intact umbilical cord and placenta, with the excised rudimentary horn

Both the fallopian tubes and ovaries were found to be intact and normal. On further exploration , the uterus was found to have an accessory horn which had ruptured. The non communication with the contralateral side was confirmed by uterine sound introduced through the ruptured site, Fig(ii).



Fig(ii)- uterine sound introduced through the ruptured end to confirm noncommunication of the horn

The ruptured horn was then excised. After putting a drain in the peritoneal cavity the abdomen was closed. The patient was transfused four pints of packed red cells and four fresh frozen plasma. She was shifted to the ICU for monitoring and improved thereafter. She was discharged on the eighth post operative day in satisfactory condition.

III. DISCUSSION

A rudimentary horn with a unicornuate uterus results due to failure of the complete development of one of the Mullerian ducts and incomplete fusion with the contralateral side.[3] The incidence is estimated at 1 per 100,000 to 140,000 pregnancies[4].

Pregnancy in a noncommunicating rudimentary horn occurs through the transperitoneal migration of the spermatozoon or the transperitoneal migration of the fertilized ovum[5]. It is associated with a high rate of spontaneous abortion, preterm labour, intrauterine growth retardation, intraperitoneal haemorrhage and uterine rupture[6]. The timing of rupture varies from 5 to 35 weeks depending on the horn musculature and its ability to hypertrophy and dilate. 70–90% rupture before 20 weeks and can be catastrophic[7]. As the uterine wall is thicker and more vascular, bleeding is more severe in rudimentary horn pregnancy rupture[8]. The first case of uterine rupture associated with rudimentary horn was reported in 1669 by Mauriceau[9]. Kadan and Romano described rudimentary horn rupture as the most significant threat to pregnancy and a life-threatening situation[10]. Maternal mortality rate before 1900 was reported to be 47.6%. Rupture of the horn is still common but no case of maternal death has been published since 1960[11].

Early diagnosis of the condition is essential and can be challenging.Ultrasound, hysterosalpingogram, hysteroscopy, laparoscopy, and MRI are diagnostic tools [12]. Fedele et al. have found ultrasonography to be useful in the diagnosis [13]. But the sensitivity of ultrasound is only 26% and sensitivity decreases as the pregnancy advances [14]. It can be missed in inexperienced hands as in our case. Tubal pregnancy, cornual pregnancy, intrauterine pregnancy, and abdominal pregnancy are common sonographic misdiagnosis. [15]. There are no definitive clinical criteria to detect this life-threatening condition in case of emergency, and diagnosis can be difficult because the enlarging horn with a thinned myometrium can obscure the adjacent anatomic structures.

Tsafrir et al. reported 2 cases of rudimentary horn pregnancy found in the first trimester by sonography and confirmed by MRI. They outlined a set of criteria for diagnosing pregnancy in the rudimentary horn [16]. They are (i) a pseudo pattern of asymmetrical bicornuate uterus; (ii) absent visual continuity tissue surrounding the gestation sac and the uterine cervix; (iii) presence of myometrial tissue surrounding the gestational sac. Nonetheless, most of the cases remain undiagnosed until it ruptures and present as emergency as in our case. Cases of late and false diagnosis

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leading to uterine rupture have been reported. Use of labor induction agents for termination of pregnancy in a rudimentary horn is unsuccessful and can lead to rupture of the horn. Samuels and Awonuga reported rupture after use of misoprostol due to misdiagnosis[17]. Nonresponders should be investigated with a high index of suspicion.

Once diagnosed, Primary strategy of management of rudimentary horn is surgical removal [18]. There are instances of early diagnosis and laparoscopic excision of rudimentary horns. Dicker et al. removed a small rudimentary horn through the suprapubic laparoscopic port[19]. Immediate surgery is recommended by most after the diagnosis even in unruptured cases[14]. Removal of the horn prior to pregnancy in order to prevent complications is also advised.

Medical management with methotrexate and its resection by laparoscopy is also reported. Edelman et al. showed a case detected at an early gestational week and treated successfully with methotrexate administration[20]. However, conservative management, until viability is achieved, has been advocated in few selected cases if emergency surgery can be performed anytime and if the patient is well informed[12]. A case of pregnancy progressing to the third trimester and resulting in live birth after cesarean section has been documented [21]. Renal anomalies are found in 36% of cases [15]; hence it is mandatory to further assess these women.

IV . CONCLUSION

Congenital uterine anomalies or Mullerian duct anomalies are uncommon in general population but significant in women with reproductive problems. Increased morbidity is seen in some types of these anomalies like inour case. Despite advances in ultrasound and other diagnostic modalities, prenatal diagnosis remains elusive, with confirmatory diagnosis being laparotomy. The diagnosis can be missed in ultrasound especially in inexperienced hands. Precious time may be lost due to delay in diagnosis or misdiagnosis due to varied presentation and the general condition of the person may worsen. Other medical and surgical causes should be quickly ruled out. Timely resuscitation, surgery, and blood transfusion are needed to save the patient. Proper diagnostic methods and early referral from the peripheral hospitals is needed to reduce the morbidity and mortality of such patients. There is a need for an increased awareness of this condition especially in developing countries where the possibility of detection before pregnancy or before the rupture is unlikely.

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