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PRE-RUPTURE DIAGNOSIS AND MANAGEMENT OF RUDIMENTARY HORN PREGNANCY IN SECOND TRIMESTER

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Abstract : Pregnancy in the rudimentary horn is rare and carries grave consequences to the mother and foetus. Early diagnosis of rudimentary horn pregnancy is challenging. The natural history of rudimentary horn pregnancy is usually the rupture of pregnant horn during second and third trimester resulting in life threatening heavy bleeding. Therefore early pre-rupture diagnosis is of major importance. We are reporting a second trimester pre-rupture diagnosis and management of rudimentary horn pregnancy.

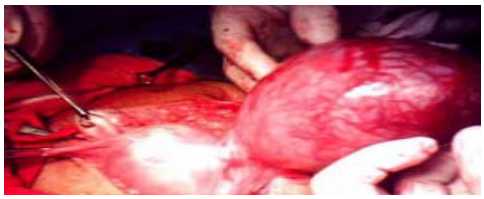
Keyword : Pre-rupture Diagnosis, Rudimentary horn pregnancy

INTRODUCTION

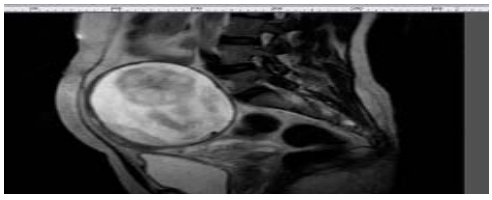
Unicornuate uterus with rudimentary horn is a type of Mullerian duct malformation and is estimated to be found in 1 in every1000 women [1]. A rudimentary horn is found in 84% of unicornuate uteri [2]. The rudimentory horn may consist of a functional cavity, which is usually non communicating or it may be a small solid muscle with no functional endometrium. The pregnancy in a non communicating horn is possible only through trans peritoneal migration of the sperm or fertilized ovum with an estimated incidence of 1 in every 1,00,000 to 1,40,000 pregnancies [3]. It is associated with high rate of spontaneous abortion, preterm labour, intra peritoneal haemorrhage and uterine rupture[4]. The definitive diagnosis of RHP prior to rupture is unusual and is possible only at laparotomy. The clinical suspicion, Ultrasonography and magnetic resonance imaging (MRI) may help in preoperative diagnosis. We report one such case of second trimester pre-rupture diagnosis of rudimentary horn pregnancy and its management.

CASE STUDY

22 year old primi gravida at 26 weeks 2 days period of gestation was referred as a case of preterm labour. She was apparently asymptomatic. Her past medical and gynaecologic histories were unremarkable with regular menses and without dysmenorrhoea. Her vital parameters were normal. Her abdominal examination revealed 26 weeks of gravid uterine size. Fetal parts were felt superficial. On per vaginal examination, cervix was deviated to right side with narrow right fornix and free left fornix. Ultrasonographic evaluation revealed an empty enlarged uterus displaced to right side by the neighbouring gestational sac. The gestational sac was extending from left adnexa up to the umbilicus with irregular wall thickness of 3 to 5 mm containing a live foetus corresponding to 25-26 weeks of gestation. The placenta was located in the anteroinferior part of the sac and there was no free fluid in the abdomen. Hence Magnetic resonant imaging was performed for further evaluation of the anatomy and location of the gestational sac. It showed a foetus outside the uterus with in a clearly defined gestational sac. The placenta was seen with definitive borders located in the antero inferior part of the sac. No signs of placental invasion of the neighbouring structures were observed. Thinned out myometrial tissue was seen surrounding the gestational sac . No cavitary connection between the gestational horn and the uterus. Diagnosis of rudimentary horn pregnancy was established.



-Enlarged uterus deviated to right. Pregnancy in left rudimentary horn with normal left ovary and fallopian tube



Rudimentary horn pregnancy surrounded by hypointence rim of tissue suggestive of myometrium

The decision for pregnancy termination was made in view of high risk of rupture of the sac and the laparotomy was performed. At laparotomy, the antero superior portion of the horn was thin and was about to rupture. The right tube and ovary were normal. The left ovary was normal and the tube was normally attached to the rudimentary horn. Excision of left rudimentary horn with intact gestational sac was carried out. The cut section of the specimen showed the foetus and placenta inside the thin wall of the rudimentary horn . Histopathology confirmed the gestational sac lined by a thin myometrial tissue and the horn had no connection with the right uterine cavity. Postoperative period was uneventful and was discharged 7 days later.

DISCUSSION

A 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. Pregnancy in non communicating rudimentary horn occurs through trans peritoneal migration of sperm or fertilized ovum [6]. Although the incidence of is rudimentary horn pregnancy relatively small, the risk of serious maternal morbidity and mortality is high. Early pre rupture diagnosis is therefore very important. The following criteria have been suggested by Tsafri et al for sonographic diagnosis of rudimentary horn pregnancy [7]: pseudo pattern of an asymmetrical bicornuate uterus, absent visual continuity between the cervical canal and the lumen of pregnant horn, and the presence of myometrial tissue surrounding the gestational sac. When pregnancy occurs in a rudimentary horn, there is a high rate of spontaneous abortion, preterm'labour, intrauterine growth retardation, intraperitoneal hemorrhage, and uterine rupture. The timing of rupture varies from 5 to 35 weeks depending on the horn musculature and its ability to hypertrophy and dilate. Sixty-one per cent of uterine ruptures occur in the second trimester, and approximately 6% occur in the third trimester (5) As the uterine wall is thicker and more vascular, bleeding is more severe in rudimentary horn pregnancy rupture. Maternal mortality rate of rudimentary horn pregnancies are always associated with catastrophic outcome, effort should be made was challenging, intra uterine pregnancies in a bicornuate uterus, ectopic pregnancy like tubal pregnancy, Cornual pregnancy are common sonographic differential diagnosis.

The continuity between the endometrial lining the gestational sac and the other uterine horn is typical of pregnancy in a bicornuate uterus. Ectopic pregnancies beyond 12 weeks of gestation are rarely tubal. In Cornual pregnancy, sonography will reveal an interstitial line that extends from the uterine cavity to the Cornual gestational sac. The sonographic criteria for the diagnosis of rudimentary horn pregnancy described by Tsafri et al applies to early pregnancy and defining the myometrial tissue surrounding the gestational sac was difficult in the second trimester in this patient. So Magnetic resonant imaging was performed. It also helps to exclude the associated renal anomalies like renal agenesis, horseshoe kidney and ipsilateral kidney. For anomalies requiring surgery Magnetic resonant imaging demonstrated 100% sensitivity and specificity [8].

CONCLUSION

The routine ultrasound in the first trimester as soon as patient misses the period or around 11- 12 weeks is very useful in early diagnosis of rudimentary horn pregnancy. It is recommended that immediate surgery should be performed whenever a diagnosis of pregnancy in rudimentary horn is made even if unruptured as timing of rupture depends on the thickness of horn musculature and once it ruptures it leads to catastrophic haemoperitoneum. Thus I conclude that high clinical suspicion, early diagnosis and timely laparotomy can reduce the grave risk to the mother. When diagnosed in early gestation, excision of the rudimentary horn is the recommended surgical treatment and provides the best prognosis as was performed in our case.

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