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Case Report

Pregnancy in non-communicating rudimentary horn

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Abstract: Pregnancy in non – communicating rudimentary horn is very rare. Here is a case of 24 year old woman presenting with pain abdomen. After clinical, sonological and MRI scan revealed pregnancy in non – communicating rudimentary horn. Since it is acute abdomen, the patient was operated and excision of the rudimentary horn with pregnancy insitu. Timely intervention saved the woman's life, thus preventing massive intra peritoneal bleeding secondary to rupture of the pregnant rudimentary horn.
Keywords: pregnancy, non-communicating rudimentary horn

INTRODUCTION

Pregnancy in a rudimentary horn is extremely rare and is reported to occur only in one in 76,000 pregnancies [1]. In women with a history of repeated pregnancy loss, the rate of Mullerian anomalies increases to 3-25% [2]. Unicornuate uterus is a type II Mullerian anomaly according to American Fertility Society classification system. It results from defective fusion of the malformed duct with contra-lateral duct. A fibrous or fibro-muscular band usually connects the horns of the ducts but in 80 - 90% of cases there is no communication [3]. The failed Mullerian duct fusion leads to the formation of an isolated hemiuterus without a contralateral structure (in complete failure cases) to various degrees of a rudimentary horn (in partial failure cases) [4].

Pregnancy in a non communicating rudimentary horn occurs through transperitoneal migration of sperm or fertilized ovum [5]. It is associated with high incidence of spontaneous abortion, preterm labour, intrauterine growth retardation, intraperitoneal haemorrhage and uterine rupture [5]. Diagnosis prior to rupture is unusual, but can be made with ultrasonography (USG) and MRI.

CASE REPORT

Our patient was a 24 year old G3 P1 L1 A1 with 9 weeks amenorrhea. She had previous one full-term vaginal delivery and one medical termination of pregnancy (MTP) at 2 months of gestation. She presented with complaints of pain in left lower abdomen since 2 days. There was no history of bleeding per vagina, white discharge, fever or burning micturition. On examination, the abdomen was soft. On per speculum examination, cervix and vagina were healthy. On per vaginal examination, uterus was of normal size, a vague mass felt on left side of uterus; there was no forniceal tenderness.

Her Hb% was 11.5g/dl. USG was suggestive of uterus measuring 76x45x48mm, endometrial thickness 8mm; right ovary 31x15x21mm, volume 5ml; left ovary 34x26x32mm, volume 15ml. Pouch of Douglas - 9weeks 5days foetus noted in left adnexal region, inferomedial to left ovary (Fig 1). No demonstrable connection from gestational sac to cervix. On colour doppler-peripheral ring of vascularity was noted along the gestational sac. Rescan one day later was suggestive of live foetus of gestaional age 9-10 weeks noted in left adnexa possibly in left rudimentary horn of uterus. MRI showed no connection from pregnant horn to cervix (Fig 2).

Laparotomy was planned for ectopic pregnancy in non-communicating rudimentary horn. After opening the abdomen, left rudimentary horn (non-communicating) pregnancy of size 8x8cm was noted (Fig 3). Both fallopian tubes and ovaries were normal. Resection of rudimentary left uterine horn with ipsilateral salpingectomy was done.

Cut-section revealed fetus corresponding to 9-10 weeks of gestation (Fig 4). Post-op recovery was uneventful. Patient was discharged on 8th postoperative day in good condition.

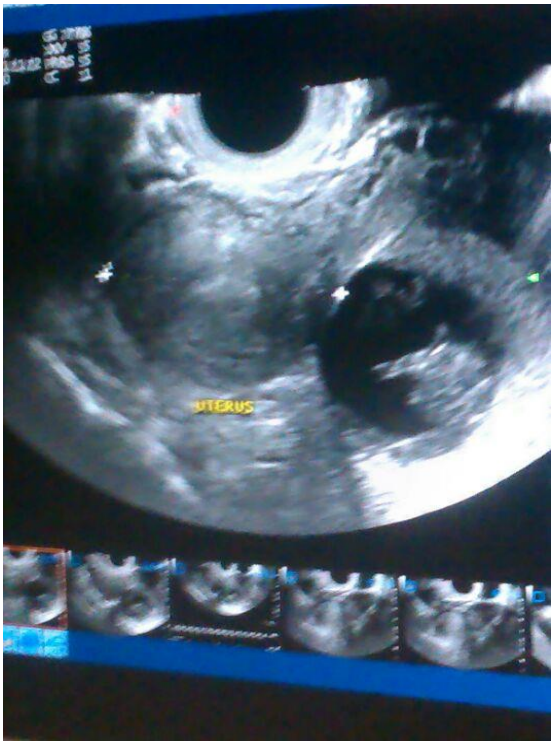

Fig-1: Ultrasonogram revealing pregnancy of 9 weeks in rudimentary horn

Fig-2: MRI of the abdomen showing pregnancy in the rudimentary horn which is non – communicating with uterus

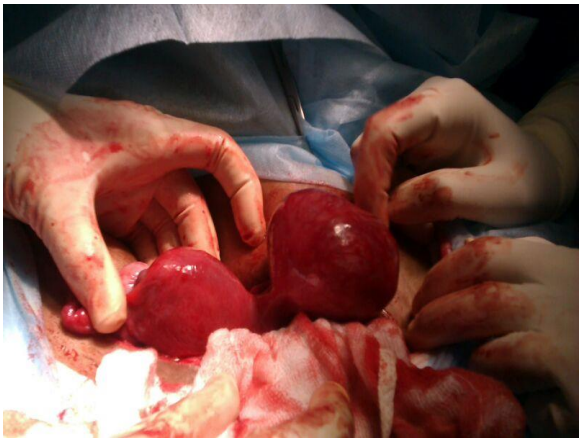

Fig-3: Laparotomy showing left sided pregnant rudimentary horn with right side normal uterus and tube

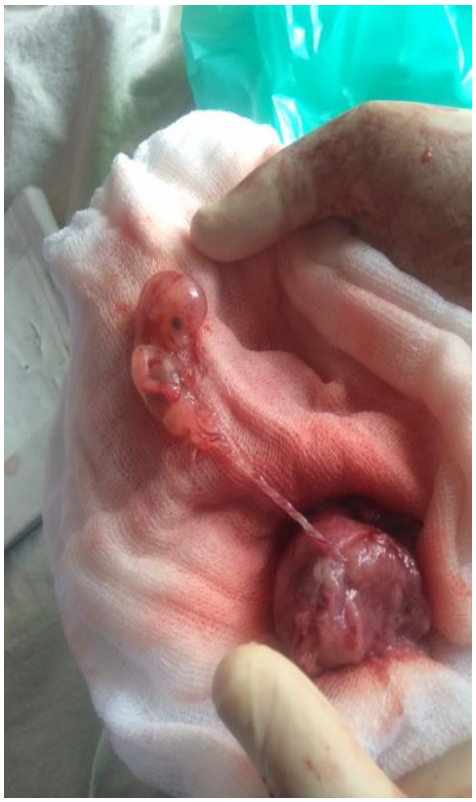

Fig-4: Cut section of the rudimentary horn specimen revealed 9 weeks of fetus with placenta

DISCUSSION

Pregnancy in a rudimentary horn is a rare condition. It was first described in 1669 by Mauriceau and Vassal[1]. The incidence of rudimentary horn pregnancy is quoted as 1:76,000-1:140,000[6]. Worldwide, it has been described up to now in about 700 cases [4].

Although the incidence of rudimentary horn pregnancy is relatively small, the risk of serious maternal morbidity and mortality is high. Early prerupture diagnosis is therefore very important.

The following criteria were suggested by Tsafrir *et al* for sonographic diagnosis of rudimentary horn pregnancy [6]:

i. Pseudopattern of an asymmetrical bicornuate uterus,
ii. Absent visual continuity between the cervical canal and the lumen of the pregnant horn, and
iii. The presence of myometrial tissue surrounding the gestational sac.

It appears that either of the two mechanisms may be involved in the occurrence of this pregnancy[7,8]. The first theory supposes that spermatozoa go up to the peritoneum by the right permeable fallopian tube, migrate intraperitoneally and fecundate the ovum that had been released either by the left or right ovary. Nahum *et al* [8] showed that intraperitoneal sperm and ovum migration appears to occur respectively in 50% and 40% of all cases of human pregnancy. An alternative hypothesis is that fertilization might have occurred within the peritoneal cavity with subsequent intraperitoneal transmigration of the resulting fertilized ovum and contralateral tubal pickup [8]. Whatever be the mechanism, the onset of pregnancy despite these unfavorable circumstances may be considered worthy of speculation.

Early diagnosis of rudimentary horn pregnancy is essential, to prevent life-threatening complication of rupture. An early bimanual palpation showing a deviated uterus with a palpable adnexal mass, a mass extending outside the uterine angle (Baart de la Faille's sign) or displacement of fundus to contralateral side with rotation of uterus and elevation of affected horn, also known as 'Ruge Simon Syndrome', should lead to a suspicion of a Mullerian anomaly[4]. The availability of technological advances like USG and magnetic resonance imaging (MRI) has made the diagnosis of rudimentary horn pregnancy possible at an early gestational age. But in advanced pregnancy the diagnostic accuracy decreases. The sensitivity of USG as a late gestation diagnostic tool is 26%. MRI appears to be the gold standard for diagnosing and grouping uterine anomalies because of its 98-100% accuracy [1].

Once a diagnosis of the rudimentary horn pregnancy is made, the treatment is laparotomy with excision of rudimentary horn and ipsilateral salpingectomy to prevent spontaneous rupture and possible catastrophic consequences [4,6,7]. Hysterectomy may be necessary in case of massive hemorrhage[4]. Medical management with methotrexate or feticide (in later pregnancy), and pregnant rudimentary horn excision by laparoscopy is proposed by Cutner *et al*. with the aim to shrink the horn and allow a less invasive surgery[4]. Dicker *et al*. reported case of a woman benefitting from laparoscopic surgery of rudimentary horn[7,9].

CONCLUSION

Pregnancy in a rudimentary horn is a rare but a life-threatening condition. Diagnosis is difficult and challenging. Careful clinical examination and imaging techniques such as USG and MRI can help in the diagnosis of this condition.

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