



LAPAROSCOPIC MANAGEMENT OF UNRUPTURED RUDIMENTARY HORN PREGNANCY

KEY WORDS

unruptured ectopic pregnancy, rudimentary horn, mullerian anomaly, laparoscopy

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ABSTRACT

Background: Pregnancy in non communicating rudimentary horn of a uterus is an extremely rare form of ectopic gestation. This rare type of mullerian duct anomaly may cause many gynaecological and obstetric complications, including infertility, recurrent abortions, preterm deliveries and rupture of the uterus, especially when the pregnancy implants in the rudimentary horn carrying grave consequences for the mother and fetus.

Case Description: We report a case of 22 years primigravida with unruptured left rudimentary horn ectopic gestation who underwent laparoscopic surgery for the same.

Conclusion: Laparoscopy, in these exceptional cases is the most accurate diagnostic tool that carries significant advantages in effective surgical management, therefore avoiding laparotomy.

Clinical Significance: Operative laparoscopy with all its advantages is an excellent alternative to laparotomy in the surgical management of unruptured rudimentary horn pregnancy.

BACKGROUND:

Aplasia of one Mullerian duct leads to the development of a unicornuate uterus. Furthermore, when one of the ducts develops only partially, this anomaly may be associated with various degrees of rudimentary horn connected to the unicornuate uterus (American Fertility Society, 1988) [1]. Unicornuate uterus is a type 2 classification with unilateral hypoplasia or agenesis that can be further subclassified into communicating, noncommunicating, no cavity, and no horn.[1] The incidence of uterine congenital anomalies because of mullerian defects in the normal fertile population is 3.2%. A unicornuate uterus accounts for 2.4%–13% of all Mullerian anomalies, 72–85% of the rudimentary horns are noncommunicating with the cavity.[2]

Conception in rudimentary horn is rare, the possible explanation for such conception to occur is transperitoneal migration of fertilized ovum or sperm from contralateral tube through abdominal cavity. In case of a noncommunicating horn, incidence of 1 in 76,000 - 1,50,000 pregnancies is reported in the literature [2,3]. When a rudimentary horn pregnancy is diagnosed, excision of the pregnant horn is of crucial importance because 80% to 90% of these pregnancies eventually culminate in rupture, typically between the 10th and 20th weeks of gestation. Less than 10% of the pregnancies occurring in the rudimentary horn reach term with a fetal salvage rate between 0% and 13%.[3,4]. To date, laparotomy has been preferred approach in these exceptional cases. Moreover endoscopic resection of a non pregnant rudimentary horn, has been sparsely reported, thus making laparoscopic resection of a pregnant rudimentary horn a very rare event. We present a case of a woman with a live gestation in a rudimentary horn, who was benefited from this novel approach.

CASE DESCRIPTION:

A 22 years primigravida was referred to our hospital with an outside ultrasonography report suggestive of live left adnexal ectopic pregnancy of 6 weeks gestation. There were no complaints of pain in abdomen, per vaginum bleeding. On examination her vitals were stable and on gentle per speculum examination there was no bleeding seen. Urgent transvaginal sonography was repeated which suggested 6weeks 5days live left adnexal ectopic gestation, with sac size 3.3 cm with ring of fire appearance seen on colour Doppler. Uterus was empty with endometrial thickness of 1.8 cm. Mild free fluid was noted in Pouch of Douglas. Diagnosis of unruptured left adnexal live ectopic pregnancy was made and patient was prepared

for emergency laparoscopy after taking written informed consent. Her hemogram was normal and serum B- HCG levels sent which later came was 26,900IU/ml.

Under general anaesthesia, three puncture laparoscopy was performed. Intraoperatively on left side a 6x6x4 cm mass was seen attached to the uterus with a thick band in between, with increased vascularity. Left fallopian tube and round ligament were seen attached lateral to this

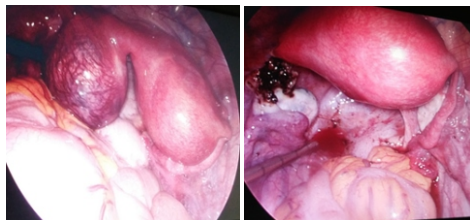


Fig 1 left sided unruptured rudimentary horn

Figure 2 after resection of rudimentary horn

mass, so a diagnosis of unruptured ectopic pregnancy in rudimentary horn was made (FIG 1). Right fallopian tube and ovary were normal. Using bipolar cautery the horn was coagulated and cut from its cornual attachment to the uterus, the left tubo-ovarian ligament was coagulated and cut and the mesosalpinx was serially coagulated and separated from its insertion to the horn (FIG 2). The course of ureter on the left side was traced, which was normal. Blood loss was about

50ml. The specimen was delivered out through one of the side ports after reducing its size by suctioning out its contents and increasing the size of the port to 1.5 cm. Patient tolerated the procedure well and was discharged after 2 days. Histopathology report of the specimen was consistent with ectopic uterine horn pregnancy.

DISCUSSION:

Difficulty in diagnosis of rudimentary horn pregnancy during early stage is quite common as there are no definite signs to distinguish this abnormal implantation from normal intrauterine pregnancy. Accurate diagnosis is possible only after laparoscopy or laparotomy. Sonographic criteria for early diagnosis of this condition include a

pseudopattern of an asymmetrical bicornuate uterus, absent visual continuity between the cervical canal and lumen of the pregnant horn and presence of myometrial tissue surrounding the gestational sac[5]. These criteria can help differentiate suspected rudimentary horn pregnancy from cornual pregnancy, intrauterine pregnancy and pregnancy in a bicornuate uterus. Magnetic resonance imaging may have a major contribution to the diagnostic evaluation when pregnancy in a rudimentary horn is suspected. It offers multiplanar images without the hazards of ionizing radiation, is non-invasive and is able to show both the internal and external uterine structure. Thus early diagnosis remains challenging.

If pregnancy is diagnosed in rudimentary horn, it should be excised and removed and with the high incidence of ectopic pregnancies, removal of fallopian tube on the ipsilateral side is also important. Nevertheless it is important to remember that there are two anatomical variations in the attachment of the rudimentary horn to the unicornuate uterus: by firm attachment and by a band of tissue[6,7]. It is an absolute prerequisite to diagnose correctly the type of presentation to avoid complications and possible compromise of myometrial wall thickness during laparoscopy. It should be borne in mind that this type of surgery requires adequate equipment and experienced surgeons[6]. This operation involves the risk of damage to the ureter(s) mainly if endometriotic lesions and/or complete ureteric duplication are present. Laparoscopic management is the most accurate diagnostic tool that allows efficient surgical management thereby avoiding laparotomy. Medical management with methotrexate provides another treatment option and it can be a useful adjunct to surgical intervention, provided beta-hCG level is not more than 6000 mIU/ml.

CONCLUSION:

Early diagnosis of rudimentary horn pregnancy and early interventions will avoid maternal morbidity and mortality. These patients are advised to be screened for urinary tract anomalies with preoperative intravenous pyelography, a complete USG examination on the aspect of the pregnancy and the pelvic anatomy. The use of magnetic resonance imaging is suggested in doubtful cases.

In our opinion operative laparoscopy with all its advantages is an excellent alternative to laparotomy. Minimal incision, reduced tissue trauma, less post-operative pain, better cosmetic result, faster recovery, and shorter hospital stay favour a laparoscopic approach and makes it an excellent alternative to laparotomy in the surgical management of unruptured rudimentary horn pregnancy.

CLINICAL SIGNIFICANCE:

Non communicating rudimentary horn pregnancy is a rare entity associated with life threatening consequences. The risk of rupture of the gravid horn is a major concern. Hence, prophylactic resection of the horn along with its tube should be considered if it is detected incidentally during evaluation of infertility or during adnexal evaluation at the completion of caesarean section.

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