CASE REPORT

Unruptured Pregnancy in Rudimentary Horn Presenting as Hemoperitoneum

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About the Author

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Introduction

Unicornuate uterus accounts for 2.4–13 % of all mullerian anomalies [1]. An estimated 75–90 % of unicornuate uteri with rudimentary horns are non-communicating. Pregnancy in rudimentary horn is rare, i.e., 1:76,000 and 1:1,40,000 pregnancies [2], and is associated with 70 % risk of uterine rupture occurring before 20 weeks of

gestation leading to life-threatening intraperitoneal hemorrhage [3]. They commonly present with abdominal pain which may occur before or after rupture [4]. Mullerian abnormality is frequently associated with renal and axial skeletal abnormalities. We report a case of unruptured rudimentary horn pregnancy with hemoperitoneum at 19 + 5 weeks of gestation, diagnosed as bicornuate uterus with pregnancy in left horn in first trimester USG.

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Case Report

A 29-year-old primigravida was admitted in our hospital at 19 + 5 weeks with complaints of pain in lower abdomen for 3 days and aggravated for past 6 h with no history of bleeding per vaginum and trauma. Her previous USG at 10 weeks showed a bicornuate uterus with a viable gestation corresponding to 10 ± 3 weeks of the gestational age in the left horn. On examination, her vital parameters were

Fig. 1 **a** Intraoperative photograph showing the anterior view of the uterus with the intact rudimentary horn attached to its left. **b** Sectioned rudimentary horn with fetus and placenta

stable with pulse of 90/min and blood pressure 120/80 mm Hg with no pallor. Per abdominally her uterus was 20 weeks gravid with severe tenderness over the fundus on left side. There was no guarding or rigidity. On per speculum examination, cervix and vagina were healthy and there was no bleeding. Her vaginal examination revealed a single soft cervix with os closed and uterine size corresponding to 20 weeks.

Urgent USG was done which showed a single live fetus corresponding to 19 weeks in the left uterine horn and suspicion of thinning of myometrium in the fundus with severe probe tenderness. Placenta was posterior. Free fluid present in the abdomen which was aspirated under USG guidance and was hemorrhagic. In view of hemoperitoneum and suspicion of rupture, patient was planned for emergency laparotomy. Preoperative consent was obtained. Her hemoglobin was 10 gm%.

Intraoperatively, there was 200 ml of hemoperitoneum and 100 grams clots. Blood was seen oozing from the left fimbrial end. There was an enlarged gravid intact rudimentary horn connected to the left wall of uterus by a fibrous band, and the ipsilateral tube was stretched over the horn. The rudimentary horn was excised, and ipsilateral salpingectomy was done. The right-sided tubes and ovaries were normal. Abdominal cavity was washed with saline and closed. Her postoperative period was uneventful, and she was discharged on 7th postoperative day. Cut section of the gravid horn showed a fetus weighing 250 grams with the placenta attached to the horn. Section was studied from wall suggestive of pregnancy in rudimentary horn (Fig. 1).

Discussion

A rudimentary horn with a unicornuate uterus results due to failure of the complete development of one of the müllerian ducts and incomplete fusion with the contralateral

side. Pregnancy in a non-communicating rudimentary horn occurs through the transperitoneal migration of the spermatozoan or the fertilized ovum, as evidenced by the 8 % prevalence of a corpus luteum on the side contralateral to the rudimentary horn pregnancy [5]. The usual outcome of rudimentary horn pregnancy is rupture in second trimester with fetal demise. They commonly present with abdominal pain which may occur before or after rupture. However, live birth cases have been reported after cesarean, for pregnancies which have progressed to third trimester [6].

The first case of uterine rupture associated with rudimentary horn was reported in 1669 by Mauriceau [7]. The timing of rupture varies from 5 to 35 weeks depending on the horn musculature and its ability to hypertrophy and dilate though 90 % of cases rupture in second trimester. Bleeding is more severe in rupture of rudimentary horn as uterine wall is thick and more vascular and causes life-threatening hemorrhage.

Our case presented at 19 + 5 weeks of gestation with severe abdominal pain and impending rupture. She was diagnosed as bicornuate uterus in first trimester USG after which patient did not come for follow-up till she developed severe pain abdomen on the day of admission. Many cases of unicornuate uterus are missed on routine USG. The sensitivity of USG is only 26 %, and sensitivity decreases as the pregnancy advances [8].

Tsafir et al. outlined a set of criteria for diagnosing pregnancy in the rudimentary horn.

1. A pseudo pattern of asymmetrical bicornuate uterus
2. Absent visual continuity of tissue surrounding the gestational sac and the uterine cervix.
3. Presence of myometrial tissue surrounding the gestational sac [9].

In these cases, MRI is a useful, noninvasive tool for diagnosis of müllerian anomalies. It offer multiplanar images and is able to show both the internal and external uterine structures.

Primary strategy of management of rudimentary horn is surgical removal [4]. Immediate surgery is recommended by most after the diagnosis even in unruptured cases [8]. Dicker et al. [10] removed a small rudimentary horn through the suprapubic laparoscopic port. Yahate et al. [11] used endoscopic stapler to transect a fibrous band connecting the rudimentary horn to the uterus. Medical management with methotrexate and its resection by laparoscopy is also reported. However, in few selected cases where the patient is well informed and emergency surgery can be carried anytime, conservative management, until viability is achieved, has been advocated [4]. Renal anomalies are found in 36 % of cases [8]. Hence, these patients should be further evaluated.

Conclusion

Non-communicating rudimentary horn pregnancy is a rare entity but carries grave consequences for the patient. Most cases are missed on routine USG and are diagnosed only after rupture and emergency laparotomy. This case highlights the need for further workup with MRI where there is USG-based diagnosis or a suspicion of mullerian anomalies. Early diagnosis and early interventions will avoid maternal morbidity and mortality.

Compliance with Ethical Standards

Conflict of interest Authors declare no conflict of interest.

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