Case Report

Rudimentary Horn Pregnancy

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Abstract

We describe a case of a 19-year-old Bangladeshi woman who was diagnosed with 19 weeks of missed abortion. Before admission to our hospital, she received medical and mechanical induction of abortion in a health complex. On admission to the obstetric ward of our hospital, her ultrasound revealed a 19-week non-viable pregnancy. After repeated medical and mechanical induction having no desirable result we decided dilatation and curettage (D&C). As D&C failed to evacuate any product of conception laparotomy was done. During this procedure, a left-sided unruptured rudimentary horn pregnancy with a non-viable fetus was discovered. The horn was surgically resected. The patient was sent home after a smooth postoperative recovery. In advanced gestation, rudimentary horn pregnancy is extremely rare and frequently cannot be distinguished from an intrauterine pregnancy. For rudimentary horn pregnancy, first-trimester ultrasonography is by far the only noninvasive, sensitive diagnostic technique available. The gold standard of therapy for advanced rudimentary horn pregnancy continues to be laparotomy with horn removal. The failure of repeated induction compelled us to perform a laparotomy, and we explored a rare condition, the failure of management of which could certainly lead to a catastrophic event.

Key words: *Ectopic Pregnancy, Laparotomy, Rudimentary Horn, Ultrasonography*

Date of received: *26.04.2024*

Date of acceptance: *31.05.2024*

DOI: https://doi.org/10.3329/kyamcj.v15i02.75356

KYAMC Journal. 2024; 15(02): 105-107.

Introduction

The inadequate development of the unilateral Mullerian duct and its incomplete union with the normal contralateral side result in the congenital deformity known as rudimentary uterine horn.Due to the lack of a distinct clinical manifestation and the declining sensitivity of ultrasonography as pregnancy progresses, rudimentary horn pregnancy (RHP) became incredibly challenging to diagnose.First trimester ultrasonography is a valuable diagnostic tool for RHP when performed by a qualified sonographer. However, in developing nations like Bangladesh, a densly populated country, ultrasounds are performed later part of pregnancy, frequently at the outset of specific complications.Even though magnetic resonance imaging (MRI) is more sensitive in identifying extrauterine pregnancy in all gestations, its application is frequently restricted due to a lack of clinical suspicion of the existence of RHP even in developed nations. MRI investigation facility is available in a very limited facility setups in low- and middle-income countries and it's costly too. We discuss a case of rudimentary horn pregnancy. Our discussion is on the management of an advanced rudimentary horn pregnancy in resource-constrained settings, including clinical presentation and obstacles in diagnosis.

Case report

The obstetrics ward of Khawja Yunus Ali Medical College Hospital (KYAMCH), Enayetpur, Sirajganj, Bangladesh received a referral case from a health complex who is a 19-year-old lady with 24 weeks of her pregnancy. She was diagnosed as a case of missed abortion since her 19 weeks of gestation. She have had done an ultrasonographic profile of her pregnancy at 19 weeks mentioning missed abortion as a finding. Following the report of missed abortion as mentioned in the ultrasonogram, repeated medical and mechanical induction was given for four weeks, but the efforts were in vein. At this stage she was referred to our institute. With no additional gastrointestinal or genitourinary complaints, she had been experiencing only mild to moderate lower abdominal discomfort only. Her vitals were normal. A 19 weeks of missed abortion was mentioned on ultrasonography report on admission in our institution and subsequent repeat ultrasonogrphy produced the same report. Then repeated medical and mechanical induction was given for 2 weeks. As these induction failed to give any expulsion of product of conception a decision of dilatation and curettage (D&C) was taken. But during the D&C procedure no product of conception was found. Concerning further management of the patient

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decision of laparotomy was made. After opening the peritoneal cavity we discovered one uterus with cervix, fallopian tubes and ovaries, and another separate ovoid mass connected but not communicated with the uterus. This mass also has fallopian tube and an ovary. The mass was resected from uterus. After an incision given to the ovoid mass, a dead fetus, placenta, membrane and umbilical cord was found. An intraoperative diagnosis of a left non communicating rudimentary horn pregnancy was made (Figure 1,2). Hemostasis was subsequently accomplished. The patient had a smooth postoperative period, spending 4 days in recovery.

Figure 1: Rudimentary horn found connected to uterus

Figure 2: A dead fetus, placenta, umbilical cord, amniotic fluid found after dissection of rudimentary horn

Discussion

An uncommon congenital uterine defect known as rudimentary horn arises from inadequate development of the unilateral Mullerian duct and incomplete fusion with the normal contralateral side.With a reported prevalence of 1:76,000–150,000 of all pregnancies, rudimentary horn pregnancy is an incredibly rare source of extrauterine pregnancy[1, 2] Its clinical manifestations are similar to those of intrauterine pregnancy, in which individuals frequently experience no symptoms at the beginning of pregnancy and develop abdominal pain or discomfort later as the pregnancy progresses.[3] While most studies recommend using ultrasound as the first imaging modality to diagnose RHP, it should be noted that as pregnancy progresses, it becomes more difficult to elicit these findings and the rate of misdiagnosis rises.[4] Ultrasonography has been reported to have a sensitivity of 26–33% in advanced gestation for diagnosing pregnancy in rudimentary horn.[5,6] Examples of these findings include the presence of myometrial tissue surrounding the gestational sac in the first trimester, absence of visual continuity between the cervical canal and lumen of the pregnant horn, and a heart-shaped uterus, which is frequently observed in asymmetrical bicornuate uterus.[7] This case illustrates how routine first trimester obstetrics scanning and delayed start of prenatal care can lead to missed opportunities for early diagnosis of some pregnancy abnormalities, as is often the case for most women in developing nations like ours.[8, 9] In this instance, the first ultrasound was performed on 20 weeks of pregnancy while she attended for her first routine pregnancy check up, RHP could not be distinguished from an intrauterine pregnancy.

Imaging methods with a high positive predictive value for identifying extrauterine pregnancies, such as single horn and ectopic pregnancies, include magnetic resonance imaging (MRI), laparoscopy, and/or hysteroscopy.[10] All trimesters can benefit from MRIs; however, there are potential dangers associated with gadolinium MRI use during pregnancy, such as embryopathy, congenital abnormalities, early pregnancy loss, intrauterine growth restriction, stillbirths, and neonatal death. For these reasons MRI it is not advised.[11] Furthermore, in low-resource countries, the high cost and restricted availability of MRI frequently restrict its utilization.[12, 13] The utilization of magnetic resonance imaging (MRI) to determine the final diagnosis was impeded by the absence of suspicion regarding the possibility of RHP in the index case and the ultrasonographic results that suggested intrauterine pregnancy, even though MRI was available in our facility. RHP can be managed medically or surgically (by laparotomy or laparoscopic procedures), similar to other forms of ectopic pregnancy, depending on the gestational age.[14, 15] However, laparotomy remains the mainstay of treatment for both ruptured and unruptured rudimentary horn pregnancies in all trimesters [14, 15] especially with advanced pregnancies as was observed in our case. Laparoscopic surgery may yield successful surgical outcomes when performed on asymptomatic women in early gestation.[13, 14, 16]

Acknowledgment

First and foremost we want to thank our colleagues in the anesthesiology department of KYAMCH for their prompt support in operative procedure.

Conclusion

Because advanced rudimentary horn pregnancy is uncommon, it can be challenging for doctors to distinguish it from an intrauterine pregnancy due to its lack of a clear clinical presentation and decreasing sonographic sensitivity as the pregnancy progresses. To determine the location of the pregnancy, all pregnant women should get a first trimester ultrasound. When gestation is progressed, MRI is the preferred test to differentiate between intrauterine pregnancy and RHP but this modality is costly and not widely available.The typical treatment for advanced RHP involves a laparotomy intended to evacuate the horn and then resect it.

References

1. Yassin A, Munaza S, Mohammed A. Tale of rudimentary horn pregnancy: case reports and literature review. J Matern Neonatal Med [Internet]. 2019;32(4):671–676. https://doi.org/10.1080/14767058.2017.1387533.

2. Tufail A, Hasmi HA. Ruptured ectopic pregnancy in rudimentary horn of the uterus. J Coll Physicians Surg Pak. 2007;17:105-106. [pubmed]

3. Zhang DD, Gao Y, Lang JH, Zhu L. Diagnosis and treatment of rudi- mentary horn pregnancy: analysis of eleven cases. Chin Med J (Engl). 2018;131(24): 3012–3014.

4. Zhang Y, Pang Y, Zhang X, Zhao Z, Liu P. Full-term pregnancy in a rudimentary horn with a live fetus: a case report. Medicine (Baltimore). 2020;99(34): e21604.

5. Dahab AA, Aburass R, Shawkat W, Babgi R, Essa O, Mujallid RH. Full-term extrauterine abdominal pregnancy: a case report. J Med Case Rep. 2011;5:3–6.

6. Brady PC, Molina RL, Muto MG, Stapp B, Srouji SS. Diagnosis and manage- ment of a heterotopic pregnancy and ruptured rudimentary uterine horn. Fertil Res Pract. 2018;4(1):4–7.

7. Siwatch S, Mehra R, Pandher DK, Huria A. Rudimentary horn pregnancy:a 10-year experience and review of the literature. Arch Gynecol Obstet. 2013;287(4):687–695.

8. Mlandu C, Matsena-Zingoni Z, Musenge E. Trends and determinants of late antenatal care initiation in three East African countries, 2007–2016: a population-based cross-sectional analysis. PLOS Glob Public Heal [Internet]. 2022;2(8):e0000534. https://doi.org /10.1371/journal.pgph.0000534.

9. Mgata S, Maluka SO. Factors for late initiation of antenatal care in Dares Salaam, Tanzania: a qualitative study. BMC Pregnancy Childbirth. 2019;19(1):1–9.

10. Ueda M, Ota K, Takahashi T, Suzuki S, Suzuki D, Kyozuka H, et al. Successful pregnancy and term delivery after treatment of unicornuate uterus with non-communicating rudimentary horn pregnancy with local metho- trexate injection followed by laparoscopic resection: a case report and literature review. BMC Pregnancy Childbirth [Internet]. 2021;21(1):4–11. https://doi.org/10.1186/s12884-021-04195-5.

11. De Santis M, Straface G, Cavaliere AF, Carducci B, Caruso A. Gadolinium periconceptional exposure: pregnancy and neonatal outcome. Acta Obstet Gynecol Scand. 2007;86(1):99–101.

12. Ogbole GI, Adeyomoye AO, Badu-Peprah A, Mensah Y, Nzeh DA. Survey of magnetic resonance imaging availability in West Africa. Pan Afr Med J. 2018;30:1–9.

13. Chatziioannidou K, Fehlmann A, Dubuisson J. Case report: laparoscopic management of an ectopic pregnancy in a rudimentary non-communi- cating uterine horn. Front Surg. 2020;7(November):1–4.

14. Sharma D, Usha MG, Gaikwad R, Sudha S. Laparoscopic resection of unruptured rudimentary horn pregnancy. J Gynecol Endosc Surg. 2011;2(2):101–104.

15. Houmaid H, Hilali A. Rupture of rudimentary horn pregnancy at 16 weeks of gestation. Case Rep Obstet Gynecol. 2021;2021:10–13.

16. Azim, S. C. T. C. (2010) “Pregnancy in a Non-Communicating Rudimentary Horn of Uterus: A Clinical Case Report,” Bangladesh Medical Journal, 39(1), 47–48.