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Case Report

Ectopic pregnancy in a non-communicating rudimentary uterine horn: a ticking bomb in a closed room

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ABSTRACT

Unicornuate uterus with rudimentary horn is a rare Müllerian anomaly occurring in 2.5-13% of cases, resulting from incomplete midline unification of Müllerian ducts during organogenesis. Pregnancy in a non-communicating rudimentary horn occurs in approximately 1 in 76,000-150,000 pregnancies and poses significant risks, including uterine rupture and severe haemorrhage. A 26-year-old woman presented at 8 weeks of gestation with her first pregnancy. Ultrasound revealed a right non-communicating horn pregnancy of 7 weeks with a gestational sac diameter of 24.9 mm and absent cardiac activity. β-hCG was 1,35,066 IU/l. MRI confirmed a unicornuate uterus with a non-communicating uterine horn pregnancy showing yolk sac presence and fetal pole absence. The patient was treated with systemic methotrexate 70 IU. Following an inadequate initial response (β-hCG: 89,344 IU/l after 7 days), a second dose was administered. Subsequently, β-hCG showed a declining trend: 1400, 457, 268.25, and 54 IU/l over consecutive weeks, confirming successful treatment. The patient later conceived naturally, achieving left horn intrauterine pregnancy and is currently at 24 weeks gestation with normal antenatal progress including normal nuchal translucency and anomaly scan. Early diagnosis and management of ectopic pregnancy in non-communicating uterine horns prevents fatal maternal complications. High clinical and radiological suspicion is essential for timely diagnosis. Systemic methotrexate represents an effective conservative treatment option, allowing preservation of fertility and subsequent successful pregnancy outcomes in the functional uterine horn.

Keywords: Pregnancy, Uterine horn, Unicornuate uterus

INTRODUCTION

A unicornuate uterus with a rudimentary horn is a rare uterine anamoly with an incidence of 2.5-13%.[1] Incomplete midline unification of the mullerian ducts during the period of organogenesis is the reason for uterine malformations. The rudimentary horn can be either communicating or non-communicating with the uterine cavity. A non-communicating horn remains dormant until menarche. Once the endometrium becomes functional, presentations like dysmenorrhea, hematometra and endometriosis can develop.[2] These clinical findings can be explained as outlet obstruction of the non-communicating horn, resulting in retrograde menstruation. In addition, urinary tract anomalies are commonly associated with Müllerian anomalies, and have been reported to be more frequent with a unicornuate uterus than with other Müllerian anomalies.[3]

The first case of pregnancy in rudimentary horn was described by Mauriceau and Vassal in 1669.[4] The reported incidence of a pregnancy in a rudimentary horn is one in 76,000-150,000 pregnancies.[5] Pregnancy in non-communicating uterine horn is possible by some proposed mechanisms like transperitoneal migration of the sperm or the fertilized ovum, or presence of microscopic channels between the rudimentary horn and the uterine cavity. A uterine horn ectopic pregnancy can be life-threatening due

to risk of uterine rupture and severe hemorrhage as they are diagnosed late or nearly missed.[6] Hence, early diagnosis is essential to prevent such complications.

Here, we report a case of pregnancy in a non-communicating uterine horn treated successfully with systemic injection methotrexate.

CASE REPORT

A 26-year-old patient had her last menstrual period on 30/1/2024, urine dipstick tested positive after 5 days of missed periods. She came for her first antenatal checkup at around 8 weeks. Her scan showed right non-communicating horn pregnancy of 7 weeks, with gestational sac of 24.9 mm diameter, with no cardiac activity. Her β-HCG was 1,35,066 IU. We proceeded with her MRI which confirmed unicornuate uterus with non-communicating uterine horn pregnancy with presence of yolk sac and absence of fetal pole (Figure 1 and 2). Her BMI was 18.66. Hence, systemic injection methotrexate 70 IU was given stat. After 7 days her β-hCG was 89,344.49 IU. Her scan showed right horn gestational sac. 2nd dose of methotrexate 70 IU was given. A week later, she came with complains of bleeding per vaginum with passage of clots. Her scan continued to show right horn gestational sac. Her β-hCG was monitored weekly. The declining trend was 1400 IU, 457 IU, 268.25 IU and 54 IU. Her last scan showed minimal luminal fluid collection in right horn. She was adviced contraceptive pills for next 3 months.

The patient again conceived later that year when her scan showed left horn intrauterine pregnancy. She is right now 24 weeks of gestational age with normal nuchal translucency and anomalous scan. Her antenatal follow-up is going smooth.

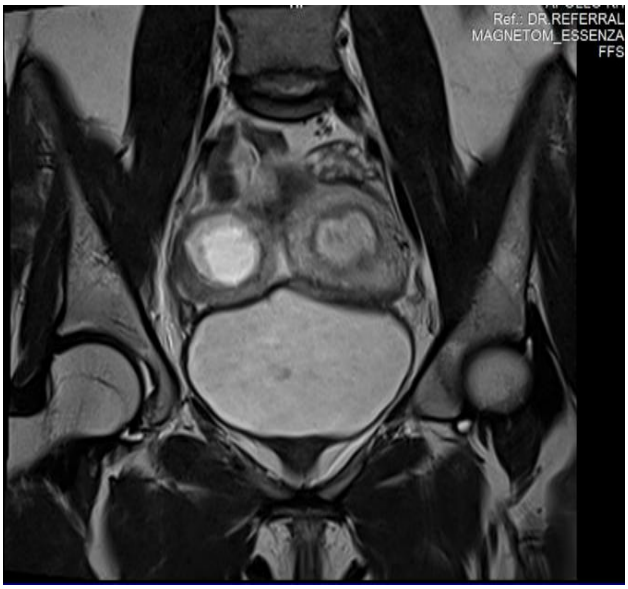

Figure 1: MRI image of rudimentary uterine horn pregnancy which is non communicating.

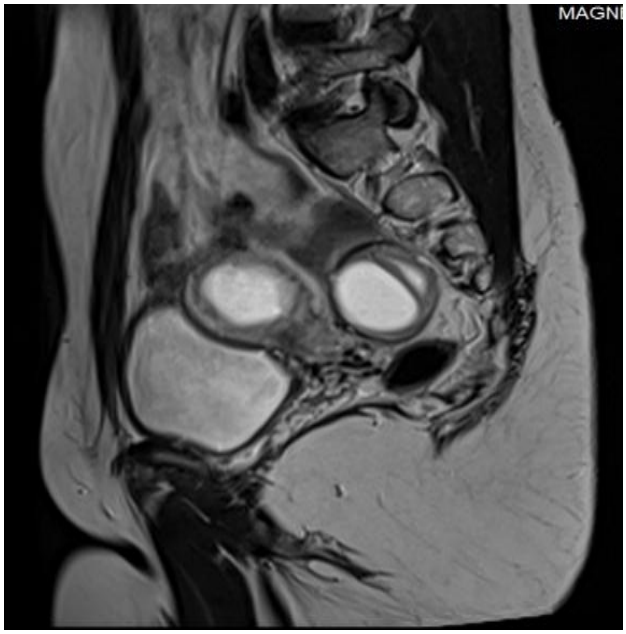

Figure 2: Sagittal section.

DISCUSSION

We report a case of pregnancy in the non-communicating uterine horn, who was unaware of her mullerian anomaly until this pregnancy was diagnosed. She never underwent ultrasound or MRI till date as she was asymptomatic. The possibility of our patient being asymptomatic may be due to the presence of hypoplastic ipsilateral fallopian tubes which could have prevented the retrograde menstruation. She had normal ipsilateral ovary.

Unicornuate uterus with pregnancy in non-communicating uterine horn is a very rare condition. Müllerian anomalies are frequently associated with renal anomalies due to the close association of genital and urinary embryological development. The kidney is of wolffian origin, whereas the uterus, cervix, and upper vagina are of Müllerian origin. Unicornuate uterus is frequently associated with ipsilateral renal agenesis due to failure of both wolffian and Müllerian ducts to develop on that particular side. Normal renal anatomy does not exclude Müllerian anomaly.[6] However, in our case we didn't see any renal anomaly.

The diagnosis is difficult and is either delayed or nearly missed due to lack of expertise or lack of facilities. The sensitivity of ultrasound is around 26% and it decreases with advancing gestational age.[7] The ASRM recommends MRI or three-dimensional ultrasound (3D-US) to screen for a unicornuate uterus.[8] MRI also has the added advantage to diagnose the associated renal anomaly. In our case too MRI was used as a diagnostic tool.

Uterine rupture can happen at any gestational age, depending on the horn musculature and its ability to hypertrophy.[5] Early diagnosis is essential in this condition in order to avoid life threatening complications such as uterine rupture followed by severe hemorrhage leading to

mortality. Fortunately, in our case we could diagnose it earlier avoiding such complications.

We treated this patient with systemic injection methotrexate. We found a drastic decline in the β-hCG values which confirmed the termination of the pregnancy. Analogously, the overall success rate of methotrexate in an unruptured cornual pregnancy with different regimens was reported to be 83% while in systemic use was 79%.[9]

There are no known precautions cited in the literature that can be taken to avoid the recurrence of this condition. Since the probability of occurrence is very low (1 in 76,000-150,000 pregnancies), we did not take any precautionary measures. The patient again conceived later that year when her scan showed left horn intrauterine pregnancy. She is right now 24 weeks of gestational age with normal nuchal translucency and anomalous scan. Her antenatal follow-up is going smooth.

CONCLUSION

Early diagnosis and management of ectopic pregnancy in non- communicating uterine horn of unicornuate uterus will avert fatal maternal outcomes. High clinical and radiological suspicion is necessary for the early diagnosis.

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REFERENCES

1. Chakravarti S, Chin K. Rudimentary uterine horn: Management of a diagnostic enigma. Acta Obstet Gynecol Scand. 2003;82(12):1153-4.
2. Reichman D, Laufer MR, Robinson BK. Pregnancy outcomes in unicornuate uteri: a review. Fertil Steril. 2009;91(5):1886-94.
3. L. Fedele, S. Bianchi, B. Agnoli, L. Tozzi, M. Vignali, Urinary tract anomalies associated with unicornuate uterus. J Urol. 1996;155:847-8.
4. Latto D, Norman R. Pregnancy in a rudimentary horn of a bicornuate uterus. Br Med J. 1950;2(4685):926-7.
5. Lai YJ, Lin CH, Hou WC, Hwang KS, Yu MH, Su HY. Pregnancy in a noncommunicating rudimentary horn of a unicornuate uterus: Prerupture diagnosis and management. Taiwan J Obstet Gynecol. 2016;55(4):604-6.
6. Jayasinghe Y, Rane A, Stalewski H, Grover S. The presentation and early diagnosis of the rudimentary uterine horn. Obstet Gynecol. 2005;105(6):1456-67.
7. Juneja SK, Gupta S, Tandon P, Gumber N. Rupture of Noncommunicating Rudimentary Horn of Uterus. Int J App Basic Med Res. 2017;7(2):146-7.
8. Pfeifer SM, Attaran M, Goldstein J, Lindheim SR, Petrozza JC, Rackow BW, et al. ASRM Müllerian anomalies classification 2021. Fertil Steril. 2021;116(5):1238-52.
9. Onderoglu LS, Salman MC, Ozyuncu O, Bozdag G. Successful management of a cornual pregnancy with a single high-dose laparoscopic methotrexate injection. Gynecol Surg. 2006;3:31-3.

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