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CASE REPORT

After Ovulation Induction, Women of Childbearing Age Stopped Their Menstruation for 50 days, Was Occured Double Chorionic Biamniotic Sac for Pregnancy in the Interstitial Part of the Tubal: A Case Report

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Abstract: Ectopic pregnancy is a dangerous gynecological acute abdomen, its incidence is about 1%−2% of clinical pregnancy, and in the case of assisted reproductive technology intervention, the incidence increased to about twice. The probability of twin ectopic pregnancy is about 1/125000 of clinical pregnancy, and the proportion of tubal interstitial pregnancy in all ectopic pregnancy is low, fallopian interstitial twin pregnancy is clinical rare situation, this paper reports a case of right tubal interstitial double choridouble amniotic sac pregnancy in our hospital, to explore the clinical characteristics and treatment of the disease.

Keywords: pregnancy, ectopic, pregnancy, twin, pregnancy, fallopian tube, fallopian tube operation, case report

Introduction

Ectopic pregnancy refers to the embryo implant other than the uterine cavity, the most common place of occurrence is the ampulla of the fallopian tube, only 3.2% of ectopic pregnancies occur in the interstitial part of the fallopian tube. Twin ectopic pregnancy occurrence probability of about 1 /125000 of clinical pregnancy,[1] and fallopian tube interstitial twin pregnancy is extremely rare, its formation process is two eggs fertilization, respectively, form two independent fertilized eggs, but the fallopian tube inflammation, adhesion or dysplasia, lead to fertilized egg running, not smoothly into the uterine cavity, stay in the fallopian tube interstitial part, implantation and development.

In the case of twin pregnancy, emergency laparoscopic tubotomy is required,[2] and salpingectomy can be performed if necessary. If the Fallopian tube interstitial twin pregnancy is not handled in time, it will lead to the rupture of the fallopian tube, causing massive intra-abdominal bleeding, which can be life-threatening in serious cases. Here, we present the medical record of a patient hospitalized for vaginal bleeding and abdominal pain after ovulation induction. The patient was diagnosed with tubal interstitial twin pregnancy at 50 days of menopause, and underwent laparoscopic incision of the right tubal stromoplasm.

Case Study

This study was in accordance with the Declaration of Helsinki and was conducted in the Department of Reproductive and Genetics, Affiliated Hospital of Shandong University of Chinese Medicine. This study was approved by the Medical Ethics Committee within the medical institution (No.2024-11-199). The patient provided written informed consent for the case details and images to be published. The public disclosure of the case has been approved by the Affiliated Hospital of Shandong University of Traditional Chinese Medicine.

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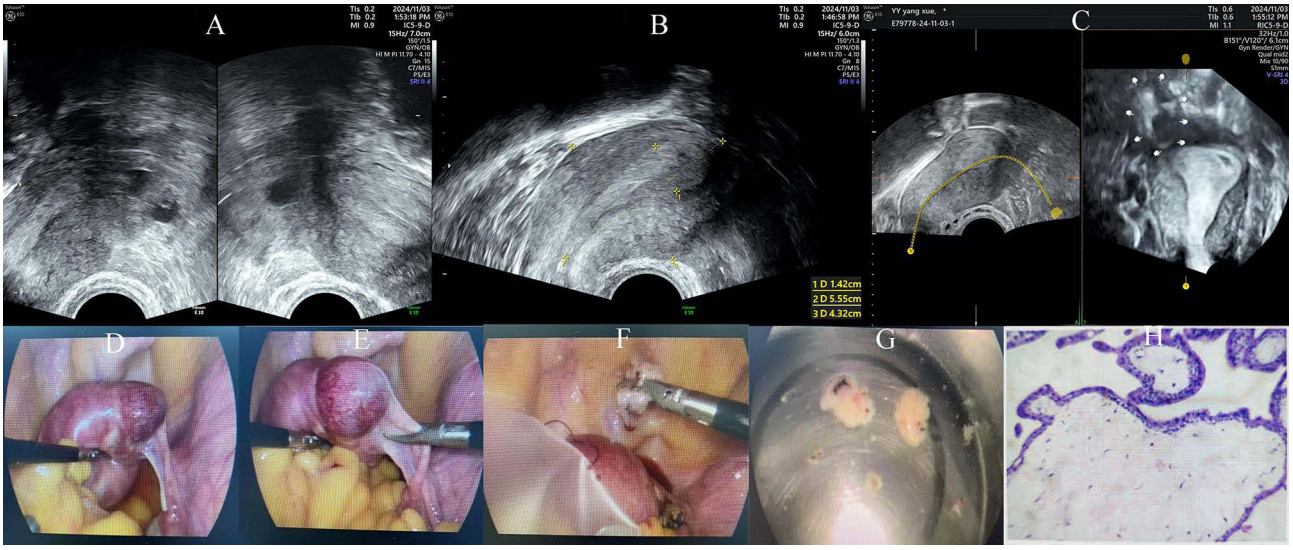

Figure 1 (**A**) Transvaginal ultrasound two-dimensional section of an interstitial fallopian tube twin pregnancy. (**B**) Measurement of the size of the interstitial part of the fallopian tube in twin pregnancy: The external exploration of the right angle showed a mixed echo capsule of 3.0 × 2.1 cm, and a cystic echo of 1.2 × 0.9 cm was seen inside, without obvious yolk sac, and an abnormal structure was found at 0.9 × 1.0 cm within the cystic membrane. (**C**) During the exploration of the yolk sac, a 0.31 cm diameter was found with fetal pressure sample structure and weak fetal heart beat, which was consistent with the interstitial line sign. (**D**) enlarged fallopian tubal stroma. (**E**) enlarged fallopian tube versus normal fallopian tube. (**F**) removal of one embryo villi. (**G**) two clumps of villi. (**H**) Pathological Results, HE stain 100.

A 27-year-old woman with regular previous menstruation, 15 years, 5–6/25–26 days, moderate, red, small blood clot, no menstrual abdominal pain and no history of pregnancy. In September 2024, drug ovulation induction therapy was performed in this reproductive center. On the 15th day of menstruation, examination found a large follicle of 19 mm and one 17.5 mm in her right ovary, the remaining follicles were no more than 10 mm, the endometrium was 12.1 mm, serum estradiol (E2) 571.2 pg/mL, luteinizing hormone (LH) 10.14 IU/L, progesterone (P) 0.79 ng/L. Daba was given 0.1 mg subcutaneous injection to promote follicular maturation and discharge, 20 mg of progesterone injection and 20 mg/d of progesterone tablets one day after ovulation.

On 11 October 2024, the patient experienced vaginal bleeding, like menstrual volume, reduced posterior vaginal bleeding and no abdominal pain for 5 days net. On October 25, 2024, the patient had no obvious cause of lower abdominal tingling, nausea, no vaginal bleeding, no abdominal distension, no anal swelling and other obvious discomfort, self-test urine pregnancy test (+). On October 26, 2024, the patient was examined in another hospital: P: 16.82 ng/mL, β-HCG: 1824.00 U/L. On November 3, 2024, E2: 763.20 pg/mL, P: 15.49 ng/mL, β-HCG: 24620.00 mU/m; B-ultrasound: uterine front, The inner membrane was 1.42 cm, Echo is less homogeneous, External exploration of the right corner and 3.0 × 2.1 cm mixed echo envelope, Block inside and 1.2 × 0.9 cm like capsule echo, No obvious yolk sac was observed, 0.9 × 1.0 cm in the capsule, To explore the yolk sac, Diameter of 0.31 cm, Explore the fetal pressure sample structure and the weak fetal heart sample beat, Like the interstitial line sign, Ultrasound suggests: the lateral mass of the right uterine horn (interstitial pregnancy? Isthmus pregnancy?), See Figure 1 (A: Transvaginal ultrasound two-dimensional section of an interstitial fallopian tube twin pregnancy. B: Measurement of the size of the interstitial part of the fallopian tube in twin pregnancy: The external exploration of the right angle showed a mixed echo capsule of 3.0 × 2.1 cm, and a cystic echo of 1.2 × 0.9 cm was seen inside, without obvious yolk sac, and an abnormal structure was found at 0.9 × 1.0 cm within the cystic membrane. C: During the exploration of the yolk sac, a 0.31 cm diameter was found with fetal pressure sample structure and weak fetal heart beat, which was consistent with the interstitial line sign). Today, for the line of the system of diagnosis and treatment, into my ward.

Interventions

Considering the patient's age and fertility needs, laparoscopic right tubal interstitial embryo incision + right tubal mesangial cyst resection was performed after communication with the patient and his family members. During laparoscopy, the anterior uterus was slightly larger; the left fallopian tube was generally normal; the right fallopian tube was

about 3 × 3cm, with a dark red surface and a mesangial cyst in the tubal abdomen; the bilateral ovarian pattern was generally normal; and the rectum was not abnormal. The right tubal mesangial cyst was electrocoagulised and removed. The enlargement of the right tubal bulge is about 2 cm, see two clumps of intact villi (double chorion double amniotic sac), as shown in Figure 1 (D: enlarged fallopian tubal stroma; E: enlarged fallopian tube versus normal fallopian tube; F: removal of one embryo villi; G: two clumps of villi). Squeeze the delivery, clean the pregnancy tissue, 2–0 absorbable line 8 word suture wound to stop bleeding. Put a specimen bag to remove two villous tissue. The pelvic cavity was repeatedly rinsed with normal saline, and no bleeding was checked. The wound was coated with 1 chitin, the dressing instruments were counted, the residual gas was released, the incision was sutured, and the operation was ended. The operation was smooth, anesthesia was satisfactory, blood pressure was stable, intraoperative bleeding was about 15 mL, 1000 mL infusion, without transfusion, continuous catheterization was unobstructed, and about 100 mL of light yellow urine was introduced. The patient returned to the ward after waking up after surgery. The tissue was seen to the family members and sent to routine pathology. Postoperative pathology: (right tubal interstitial villous tissue 1) found villous tissue, consistent with ectopic pregnancy; (right tubutal interstitial villous tissue 2) found villous tissue, consistent with ectopic pregnancy. See Figure 1 (H: Pathological Results, HE stain 100).

Follow-Up

The β -HCG was 2260 IU/L on postoperative day 3, and β -HCG decreased to 150 IU/L on day 14, so he was discharged for regular follow-up β -HCG decreased to normal.

Discussion

Ectopic pregnancy refers to the implantation of the fertilized egg other than the uterine body cavity, including fallopian tube pregnancy, ovarian pregnancy, uterine muscle wall pregnancy, abdominal pregnancy, broad ligament pregnancy and cervical pregnancy. The results showed that only one case of ectopic pregnancy would occur in 200 ectopic pregnancies,[3] and most of the ectopic pregnancies occurred in the ampulla of the fallopian tube, while the twin pregnancy in the interstitial part of the fallopian tube is very rare. Because the fallopian tube stroma is located in the uterine corner, which is the junction of the fallopian tube to the uterus, the pregnancy in this site has certain particularity and danger. If rupture occurs, the symptoms are extremely serious, and fatal bleeding often occurs in a very short time, endangering the life of the pregnant woman. Due to its hemodynamic instability, twin ectopic pregnancies are more critical compared with singleton ectopic pregnancy.

In recent years, with the development of assisted fertility technology and the application of ovulation induction drugs, the case reports of ectopic pregnancy have gradually increased.[4] In this case, the patient was previously treated with ovulation induction regimen in our hospital. Ovulation induction drugs may expel multiple eggs, increasing the combination probability of sperm and egg combination, thus improving the chance of twin pregnancy. However, the fertilized egg is implanted in the interstitium of the fallopian beyond the uterine lumen. This formed a twin pregnancy in the interstitium of the fallopian tube.

In order to avoid the rupture of twin pregnancy in the interstitial fallopian tube, early detection, early diagnosis and early treatment should be made. The diagnosis of twin pregnancy in the interstitial fallopian tube first depends on the patient's clinical symptoms, such as menopause, abdominal pain, and vaginal bleeding. However, these symptoms are not specific and therefore require further confirmation by imaging examination. B-ultrasound is the preferred imaging method for the diagnosis of twin pregnancy in the interstitial tube.[5] Through B-ultrasound, the position, size of the pregnancy sac and the development of the embryo can be observed, so as to determine whether the interstitial pregnancy of the fallopian tube, and further confirm whether it is a twin. On the basis of the initial diagnosis, doctors also need to combine the patient's medical history, laboratory examination results and imaging examination comprehensive analysis to confirm the diagnosis. In particular, the determination of HCG (human chorionic gonadotropin) and progesterone can help determine the development of the embryo and the risk of ectopic pregnancy.[6] Because of the high risk of rupture of pregnancy, surgery should be performed as soon as possible. The surgical method includes laparoscopic and open surgery, and the specific choice should be decided based on the patient and the experience of the operating surgeon. The main purpose of the operation is to remove the fallopian tube and pregnancy on the affected side to stop bleeding and prevent the occurrence of complications. Laparoscopic surgery has less trauma and quick recovery, and is one of the preferred treatments.[7] For patients who have

not had children, preserving the fallopian tube and linear incision of the embryo can be considered. If the patient has internal bleeding and shock, the vital signs are extremely unstable, and she needs to quickly open abdomen to stop the bleeding and complete the operation. Salpingectomy may be considered in patients with no fertility requirements or severe tubal malformation. In some special circumstances, such as the patient in good condition, no intra-abdominal bleeding or less bleeding, low or slow doubling of blood hormones, embryo dysplasia, etc., conservative treatment with drug germ killing can be considered.[8] The aim is to promote it through medical treatment.

In short, double chorionic pregnancy in the interstitium of fallopian in this case is very rare, and the patient sees the doctor in time after discomfort symptoms, coupled with the accurate judgment of doctors, is the key to early clinical intervention. The risk factors for the onset of double chorionic pregnancy in the interstitium of fallopian tube are the same as those of other ectopic pregnancies, but the incidence site leads to mild clinical symptoms than other ectopic pregnancies, which is more likely to diagnose.[9] Ultrasound imaging is a common and effective method for the diagnosis of tubal interstitial pregnancy, which can make early diagnosis before the rupture of fallopian tube pregnancy, but in order to ensure the accuracy of diagnosis, it is necessary to combine the patient's history and laboratory examination results. The success rate of conservative treatment of pregnancy is low. Once diagnosed, surgery is recommended as soon as possible. At the same time, we should pay attention to the mental health of patients and escort their way to pregnancy.

Disclosure

The authors report no conflicts of interest in this work.

References

1. Tsakiridis I, Chatzikalogiannis I, Dagklis T, Athanasiadis A, Mamopoulos A. Spontaneous unilateral twin tubal pregnancy: a rare case report with conservative management. *J Obstet Gynaecol*. 2019;39(7):1030–1031. doi:10.1080/01443615.2019.1586859
2. Marchand G, Masoud AT, Galitsky A, et al. Management of interstitial pregnancy in the era of laparoscopy: a meta-analysis of 855 case studies compared with traditional techniques. *Obstet Gynecol Sci*. 2021;64(2):156–173. doi:10.5468/ogs.20299
3. Chen S, Cao L, Deng G. A case of conjoined twins with bilateral tubal pregnancies in the same location and a literature review. *J Int Reprod Health/Fam Plan*. 2020;39(05):382–384+442.
4. Qiao J. Complex Ectopic Pregnancy After Assisted Reproductive Technology. Paper presented at: 2011 China Obstetrics and Gynecology Academic Conference and Zhejiang Family Planning and Reproductive Medicine Academic Annual Conference and Reproductive Health Workshop; China, Hangzhou, Zhejiang; 2011.
5. Song Y, Yu H, Zhan B. A case of unilateral tubal twin pregnancy diagnosed by transabdominal ultrasound combined with transvaginal ultrasound. *Chin J Interv Imag Ther*. 2018;15(02):76.
6. Li X. Analysis of the Application of Early Transvaginal Color Ultrasound Combined with Serum β-HCG Testing in the Clinical Diagnosis of Ectopic Pregnancy. Paper presented at: The Third National Medical Research Forum; China, Xi'an, Shaanxi Province; 2023.
7. Xiao M. Clinical Effect Observation and Comparison of Laparoscopic Surgery and Open Surgery in the Treatment of Ectopic Pregnancy. Paper presented at: The 2nd National Medical Research Forum; China, Xi'an, Shaanxi Province; 2023.
8. Deng X, Chen Y, Ma L, Xu L, Yang M. Clinical efficacy of conservative treatment of ectopic pregnancy with methotrexate combined with mifepristone. Paper presented at: The First National Rehabilitation and Clinical Pharmacy Academic Exchange Conference; China Jiangsu Nanjing; 2022.
9. Zhang Q, Ye N. Nursing experience of comprehensive traditional Chinese medicine treatment for ectopic pregnancy. Paper presented at: The 3rd National Academic Exchange Conference on Rehabilitation and Clinical Pharmacy; China, Nanjing, Jiangsu Province; 2022.