

Abdominal Pregnancy with Multiple Organ Implantations

Rui Zhao^{*}, Hongli Zhao, Dian Gong, Ke Zhou

*Department of Gynecology, West China Hospital of Sichuan University Meishan People's Hospital,
Meishan, Sichuan, 620000, China*

437165394@qq.com

**Corresponding author*

Keywords: Abdominal Pregnancy, Ectopic Pregnancy, Extensive Implantation

Abstract: Background: The incidence rate of abdominal pregnancy is about 1:15000, accounting for 1% of ectopic pregnancies. The clinical symptoms of abdominal pregnancy were nonspecific. Case presentation: This case is a 31-year-old female with her first pregnancy. She can't remember her last menstruation clearly. She was hospitalized with abdominal pain as the main complaint. Hemoglobin in the hospital was 38g/L, color Doppler ultrasound showed a large amount of abdominal and pelvic effusion. During the operation, ectopic pregnancy lesions were widely planted in the ovary, omentum, rectum, and sigmoid colon. Conclusion: Abdominal pregnancy is a serious ectopic pregnancy. Clinicians should actively diagnose and treat.

1. Background

The implantation of fertilized eggs outside the uterine cavity is called an ectopic pregnancy, which is commonly called extrauterine pregnancy. Ectopic pregnancy is a common acute abdomen in obstetrics and Gynecology, with an incidence rate of 2%-3%, and is the main cause of death in pregnant women in early pregnancy [1]. According to the different implantation sites of fertilized eggs in the uterine cavity, they can be divided into tubal pregnancy, ovarian pregnancy, cervical pregnancy, broad ligament pregnancy, uterine scar pregnancy, abdominal pregnancy, uterine residual horn pregnancy, tubal residual pregnancy, etc. Abdominal pregnancy is a rare and serious ectopic pregnancy in the clinic. It refers to abdominal pregnancy outside the uterus, fallopian tubes, ovaries, and broad ligaments. The incidence rate is about 1:15000, accounting for 1% of ectopic pregnancies [2]. This paper reports a case of abdominal pregnancy with multiple organ implantation treated in the Department of Gynecology of Meishan People's Hospital, which is subordinate to West China Hospital of Sichuan University.

2. Case Presentation

2.1 Medical History

The patient, female, 31 years old, married, gestation 1, pregnant 0, was hospitalized on December 22, 2021, due to "abdominal pain for 3 + days". The patient could not remember the last menstruation clearly. She had lower abdominal pain 3 + days before admission, which was

continuous lower abdominal distension and pain. She could endure it, did not pay attention to it, did not make a diagnosis and treatment, and later abdominal pain gradually aggravated. She came to the hospital on December 22, 2021. The outpatient color Doppler ultrasound showed the anterior position of the uterus, the anterior and posterior diameter was 3.0cm, the echo of the parenchyma was still uniform, there was no obvious abnormal echo in the uterine cavity, and the range of the posterior part of the uterus was about 10.9x11 1x8. 9cm chaotic echo area, boundary unclear, and no obvious blood flow signal in the range; anechoic areas were found around the liver, spleen, abdomen, and pelvis, and the maximum depth of the pelvis was about 5.2cm. Emergency with "abdominal pain waiting for diagnosis: ectopic pregnancy?" Admitted to hospital.

2.2 Examine

Admission physical examination: T:36.3°C, P:68 times/minute, R:17 times/minute, BP: 88mmHg/58mmHg, clear mind, poor spirit, pale face, no abnormalities in cardiopulmonary auscultation, slight swelling of abdomen and tenderness. Gynecological physical examination: a small amount of vaginal bleeding, full posterior fornix, mild cervical erosion, lifting pain, and rocking pain, posterior position of the uterus increase, such as the size of 40-day pregnancy, mild tenderness, mild tenderness in bilateral accessory areas, no palpable obvious mass. The posterior vaginal fornix was punctured and extracted 5ml without coagulation. The hemoglobin was 38g/L and the urine pregnancy test was positive. Ectopic pregnancy was considered in the diagnosis of admission and an emergency operation was planned.

2.3 Operation

Emergency laparoscopic conversion to open abdominal pregnancy extraction + left adnexectomy + right fallopian tube plastic surgery + separation of severe abdominal and pelvic adhesions + intestinal adhesion lysis + partial omentum resection + colostomy (to be paid back in phase 2). The intraoperative conditions are as follows: First, laparoscopic exploration was performed, and the lens was inserted into the laparoscope. It can be seen that there is about 1000ml of free hematocele in the abdominal cavity, free hematocele in the exploration area of the liver and spleen, dense adhesion between the greater omentum and the uterus and intestinal canal, sealing the pelvic cavity, and wrapping a large number of old blood clots to form a mass with a diameter of about 20cm, without a uterus and bilateral accessories; Laparoscopic surgery was difficult. After communicating with family members, we switched to laparotomy, took down the abdominal longitudinal incision, and went into the abdomen. It was still difficult to explore the pelvic cavity, so we extended the incision around the umbilical cord. During the operation, it is difficult to gradually separate the intestinal and omental adhesions with an ultrasonic knife, but the pelvic structure cannot be exposed. Please consult the gastrointestinal surgery on stage to assist in separating the adhesions. See: The left appendix, sigmoid colon, greater omentum, and anterior rectal wall are wrapped with adhesions to form a mass with a diameter of about 20cm seen in the laparoscope. Explore a large number of blood clots in the mass of about 1500g, remove the blood clots, see villous tissue in the blood clots, and the left fallopian tube is thickened and edematous and purplish brown, the left ovary was destroyed by the lesion, no normal tissue was found, and the surrounding tissue was pregnancy organized necrosis; The posterior position of the uterus is small and soft. The posterior wall of the uterus tightly adheres to the greater omentum and the anterior wall of the rectum. The right accessory adheres to the omentum and intestinal tube. The right fallopian tube is thickened and hydrous, with a size of about 8 x 3 x 2cm. After separation of adhesions, the appearance of the right ovary is normal. The pregnant tissue occupies the whole uterine rectal depression. It is planted and grown in the sigmoid mesangium, sigmoid colon, and the anterior wall of the rectum. The serosal

layer of the sigmoid mesangium and sigmoid colon were invaded and purple brown, during the operation, the left accessory of the patient was removed for examination, the right fallopian tube was repaired, and reshaped, part of the greater omentum was removed, and the intestinal invasion was examined. Because the focus of ectopic pregnancy infiltrated the rectal surface and sigmoid colon, there was the possibility of large intestinal ischemia and necrosis; to avoid postoperative intestinal fistula, it is proposed to perform colostomy and pay it back in phase 2. Family members are invited to visit the operation in the operating room, sign and agree after communicating with family members, perform a colostomy, check that there is no active bleeding on the operation wound, flush the abdomen and pelvis, place the plasma drainage tube, count the instruments and gauze, and then close the abdomen layer by layer. If it is found that the tension of the abdominal wall is high and it is difficult to close the abdomen, perform 3 stitches of tension reduction, close the abdominal wall incision, and place the fistula bag at the fistula opening, the operation is over.

2.4 Result

As shown in Figure 1, 2 and 3, the patient lost about 3000ml of blood (including 1000ml of intraperitoneal free blood, 1500g of blood clot, and 500ml of surgical bleeding). A total of 1700ml of O-Rh positive suspended red blood cells, 10u of cold precipitation, and 800ml of fresh frozen plasma were injected during and after the operation. After blood transfusion treatment, the patient rechecked the hemoglobin of 87.00g/L, improved, and was discharged from the hospital on January 7, 2022, and reentered our hospital on March 3, 2022, for partial resection of the transverse colon + return of transverse colostomy + release of intestinal adhesion. The operation was successful and finally cured and discharged from the hospital.

Postoperative pathological examination: < greater omentum > acute and chronic inflammatory cell infiltration with bleeding, necrosis, and fibrous tissue hyperplasia were found, < left appendix > acute and chronic inflammatory cell infiltration with bleeding and necrosis were found, and a very small amount of villous tissue was also found, < Villi of ectopic pregnancy > villi tissue and trophoblast cells were found.



Figure 1: Intestinal pregnancy focus



Figure 2: Postoperative specimens: greater omentum, left accessory, villi, ectopic pregnancy focus



Figure 3: After the operation, the patient's abdomen

3. Discussion

Abdominal pregnancy is a rare ectopic pregnancy. The incidence rate of ectopic pregnancy is low, but the condition is serious and the cause is not clear. The diagnosis of abdominal pregnancy is relatively difficult. If there is no specific clinical manifestation, it is easy to be misdiagnosed and missed.

Abdominal pregnancy is divided into primary and secondary. Primary abdominal pregnancy refers to the direct implantation of fertilized eggs in the peritoneum, mesentery, greater omentum, and other places, as well as in the liver and spleen, but it is rare [3]. Diagnostic criteria of primary abdominal pregnancy: no abnormality in bilateral fallopian tubes and ovaries and no evidence of recent pregnancy; no formation of uterine peritoneal fistula; pregnancy only exists in the abdominal cavity and there is no evidence of pregnancy in other parts [4]. Diagnostic criteria of secondary abdominal pregnancy: it is more common after tubal abortion or rupture, but also after ovarian and uterine pregnancy rupture, the embryo falls into the abdominal cavity and is implanted on the surface of the peritoneum or adjacent organs in pregnancy [4]. In this case, the patient was the first pregnant with no history of operation. She was conceived naturally under normal conditions. Considering the intraoperative situation, abdominal pregnancy was secondary to the rupture of the left ovarian pregnancy. The symptoms of abdominal pain after menopause were not paid attention to. The focus of ectopic pregnancy was widely planted in the abdominal cavity, resulting in a large amount of intra-abdominal bleeding and dense abdominal and pelvic adhesions.

There are two kinds of surgical treatment methods for abdominal pregnancy: laparoscopy and laparotomy. Laparoscopic surgery has the advantages of small trauma and fast postoperative recovery. It is the first choice for the surgical treatment of ectopic pregnancy, and the field of vision of laparoscopic surgery is large. During the operation, it can not only explore the uterus, bilateral attachments, and broad ligaments in the pelvic cavity but also explore other possible ectopic pregnancy sites such as the greater omentum, liver, and spleen. For some patients with severe abdominal and pelvic adhesions or difficult laparoscopic operation, choosing laparoscopic operation will increase the side injuries during the operation, such as pelvic organ injury, which is not conducive to the postoperative recovery of patients. The ectopic pregnancy focus of this patient was widely planted in the abdomen and pelvis, resulting in serious pelvic adhesions and intestinal adhesions. Laparoscopic surgery could not expose the field of vision, so it was transferred to laparotomy in time. During the operation, it was actively rescued together with gastrointestinal surgeons. Finally, the rescue was successful, and the patient was cured and discharged from the hospital.

4. Conclusions

The case fatality rate of abdominal pregnancy is 7.5% of that of tubal pregnancy 7 times, 89.8 times of intrauterine pregnancy [5]. Clinicians ask for the medical history in detail, carefully check the body, combined with ultrasound and other auxiliary examinations, diagnose as soon as possible, and actively treat. Patients usually have a good prognosis.

References

- [1] Xie Xing, Kong Beihua, Duan Tao. *Obstetrics and Gynecology*. 9th Edition. Beijing: People's Health Publishing House, 2018: 79.
- [2] Huang Miaomiao, Wang Xiaoqin, Wei Zhaolian. *Diagnosis and treatment of 3 cases of primary abdominal pregnancy*. *Reproduction and contraception*, 2015, 35 (10): 739-742.
- [3] Atif Bashir E. Fazari, Vidya Raman, Hala Bashir, et al. *Abdominal pregnancy, a case report from Latifa Hospital DHA, Dubai, UAE*. *Open Journal of Obstetrics and Gynecology*, 2018, 8 (12): 1198- 1204.
- [4] Hailu FG, Yihunie GT, Essa AA, et al. *Advanced abdominal pregnancy, with the live fetus and severe preeclampsia, case report*. *BMC Pregnancy Childbirth*, 2017, 17(1): 243. DOI: 10.1186 / s12884-017-1437-y.
- [5] Xu Hua, Zhu Jin. *Clinical report and literature review of 6 cases of abdominal pregnancy*. *Reproduction and contraception*, 2010, 30 (2): 133-136.