A 31-year-old gravida 2, para 1 woman was admitted to the Gynecology Department of the Beijing Chaoyang Hospital with spotting and lower abdominal pain of 8 days’ duration. Her last menstrual period was 54 days before admission. She had no history of sexually transmitted or pelvic inflammatory disease. She had experienced a normal vaginal delivery 5 years earlier and had undergone right salpingectomy for removal of an ectopic pregnancy 3 years before the current admission. Her vital signs were stable. Physical examination showed no positive signs. Despite a positive urine human chorionic gonadotropin (hCG) test, subsequent transvaginal ultrasound revealed an empty uterus and normal adnexa. Her serum hCG level was 47,440 mIU/mL, and her hemoglobin concentration was 117 g/L. Abdominal ultrasound revealed a 3.0 × 2.3-cm gestational sac, with a yolk sac and fetal cardiac activity, located adjacent to the abdominal aorta and inferior vena cava. No free fluid was noted in the cul-de-sac. Based on the ultrasound findings, a diagnosis of abdominal pregnancy was made.

The patient was placed in the lithotomy position under general anesthesia. The procedure was performed by laparoscopy. The uterus and both ovaries and left fallopian tube surface appeared intact, showing no signs of ectopic pregnancy (Fig. 1). Further exploration revealed a 3 × 3-cm ovoid mass lesion, suggestive of ectopic mass, in the adjacent retroperitoneal abdominal aorta and inferior vena cava (Fig. 2). No bleeding from the lesion was observed. We performed a partial retroperitoneal resection with bipolar coagulation using a Harmonic scalpel (Fig. 3). Because the gestational sac was adjacent to the major vessels, we did not completely remove the base of the gestational sac. The gestational sac was broken during the operation. As we removed the trophoblastic tissue out of the sac, massive bleeding occurred, which we treated with prekallikrein coagulation hemostasis. The hemostatic matrix was applied with a 5-mm endoscopic applicator directly on the bleeding tissue, resulting in the formation of a local clot. After ensuring complete hemostasis of the retroperitoneum, the specimen was removed with an endoscopic removal bag. A drain was placed in the abdomen to monitor for postoperative intra-abdominal hemorrhage. The total operation time was 3 hours and 45 minutes, and total intraoperative blood loss was 150 mL.

Biopsy results confirmed an ectopic pregnancy. The patient’s serum hCG level decreased from 47,440.5 mIU/mL to 14,418.6 mIU/mL on postoperative day 1, then to 2107.4 mIU/mL on postoperative day 4, and was negative on postoperative day 8. She progressed well with no complications and was discharged on postoperative day 8.
In patients with a serum hCG concentration >2000 IU/L and negative transvaginal ultrasound findings, the gynecologist should consider retroperitoneal pregnancy, especially when the uterus, bilateral fallopian tubes, and ovaries are grossly intact. An abdominal ultrasound is crucial in such cases. In this patient, laparoscopy proved to be a useful tool not only for identifying the diagnosis, but also for ensuring successful management. However, any gynecologist attempting such a procedure should be well trained, have a thorough knowledge of the retroperitoneal anatomy, and be ready to convert to laparotomy in the event of heavy bleeding or other complications.

This report was reviewed by our hospital’s Institutional Review Board, which determined that this case does not qualify as human subject research and thus is certified exempt.

We thank Xiaohong Jiang, MD for providing the abdominal ultrasound images.