Primary Ovarian Pregnancy: A Case Report

ABSTRACT

Primary ovarian pregnancy is a relatively rare form of ectopic pregnancy with an incidence of 1/6,000-1/40,000 pregnancies. We report a 28-year-old woman, gravida 1, parity 0 referred from a community hospital due to clinically rule out acute appendicitis, presented with right lower quadrant abdominal pain with moderate anemia. Pelvic examination revealed right pelvic mass and transabdominal ultrasound confirmed a right adnexal echocomplex mass with free fluid in the cul-de-sac. Urine pregnancy test is positive. Emergency exploratory laparotomy was performed with a preoperative diagnosis of right ectopic pregnancy. Ruptured right ovarian pregnancy was intraoperatively diagnosed. Right oophorectomy was performed. The histopathology confirmed ovarian pregnancy. Her discharge status was complete recover.

Introduction

Primary ovarian pregnancy is rare with an incidence of 1/6,000-1/40,000 pregnancies. Nevertheless, it is estimated to account for 1% to 3% of all diagnosed ectopic pregnancies. This condition was hardly found in Thailand but most
Pathologists should concern and recognize. The diagnosis of ovarian pregnancy should be restricted to cases in which there is no involvement of fallopian tube. Spiegelberg criteria were used for gross and microscopic findings to diagnosis ovarian pregnancy: e.g. (1) intact ipsilateral tube, clearly separate from the ovary; (2) gestational sac occupying the position of the ovary; (3) sac connected to the uterus by the ovarian ligament; and (4) histologically proven ovarian tissue located in the sac wall.¹

Case report

A 28-year-old woman who was referred from a community hospital due to persist acute abdominal pain for 3 days. The CBC and U/A screening showed no abnormality. Medical treatment was given but clinically not improved. Her menstruation period was irregular but she had some bleeding per vagina since developed abdominal pain. She did not use any means of contraception. She had no previous history of pelvic inflammatory disease or sexually transmitted diseases. Physical examination revealed marked tender at right abdominal quadrant with rebound tenderness. Acute appendicitis could not be excluded. The further investigation were performed and laboratory tests showed moderately anemia (Hb 8.92 g/dl, Hct 26.6%) without leucocytosis (WBC = 9,710/mm³; neutrophils 74.5%, lymphocytes 16.8%, and monocytes 7.62%). The urinary examination showed few white blood cells. The urine pregnancy test was positive. A transabdominal ultrasound scan displayed a complex mass at right adnexa with free fluid in cul de sac. Emergency exploratory laparotomy was performed with a preoperative diagnosis of right ectopic pregnancy. The operative findings showed normal size of uterus with normal intact both fallopian tubes. There was ruptured right ovarian cyst, connected to the uterus by the ovarian ligament and contained some fetal-like tissue, surrounded by blood clots with hemoperitoneum approximately 500 ml. The left ovary was no notable change. A diagnosis of right ovarian pregnancy was made, and a right oophorectomy was performed.

The specimen of right oophorectomy and its content were sent to Anatomical Pathological Division. The gross pathologic examination revealed friable hemorrhagic ovarian cyst, measuring 3.0 x 3.0 x 2.0 cm. in maximal diameter and covered by some clot blood tissue. Serial sectioning showed bilocular cyst containing some conceptus tissue. Perforation was present. The wall of cyst was varying from 0.2 to 0.4 cm. in thickness. A histological examination confirmed product of conceptus and showed fragments of immature placental and decidual tissue with hemorrhage and necrosis and mild acute inflammation. No abnormality of chorionic villi was seen. Trophoblastic cells were focally proliferated without cellular atypia. The corpus luteum of pregnancy was present and shows cerebriform contour which contains enlarged lutein cells with occasional cytoplasmic vacuoles and droplets which was characteristic of ovarian pregnancy.

Her abdominal pain resolved after oophorectomy. The surgical wound healed without infection. After discharge, oral antibiotics were given and her status was complete recovered at routine follow-up visit.
Discussion

Primary ovarian pregnancy is very rare and difficult to diagnose clinically, only a small proportion of ovarian pregnancies are diagnosed intraoperatively. Hence, most diagnoses are made by the pathologist, who must be aware of the condition. The typical clinical presentation is severe pain and hemoperitoneum but there are no differences in clinical findings (abdominal pain, amenorrhea, and abnormal vaginal bleeding) between tubal and ovarian pregnancies. This present case is a rare primary ovarian pregnancy who presented with acute abdominal pain on right lower abdominal quadrant. The operative findings and histological examination are consistent in all criteria of Spiegelberg criteria of primary ovarian pregnancy. The common predisposing factors reported of primary ovarian pregnancy are progesterone-only minipill used, endometriosis, previous tubal surgery, pelvic inflammatory disease, oophoritis, previous cesarean section and intrauterine device usage are not found in the present case. High parity and young age have also been suggested as risk factors. Pathogenesis of an ovarian pregnancy is a result of the retention of the ovum in the ovarian operculum and its continued entrapment within the ruptured ovarian follicle. A sperm entering the peritoneal cavity fertilizes this entrapped ovum, and implantation occurs within the ovary. The treatment in the present case was unilateral oophorectomy due to the rupture of the ovarian pregnancy. The traditional treatment is ipsilateral oophorectomy and the conservative surgery are wedge resection or ovarian cystectomy to preserve the patient's fertility. Currently, methotrexate has increasingly become a popular treatment for small, unruptured ectopic pregnancies. It may be helpful in the preservation of the ovary of patients with a preoperative diagno-
sis of ovarian pregnancy but it is inappropriate in
the present case because of the ruptured ovarian
pregnancy.

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