CASE REPORT

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Primary Abdominal Pregnancy Acting as a Bladder Tumor

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ABSTRACT Primary abdominal pregnancy is a potentially life-threatening condition and still the major cause of maternal mortality in the first trimester of pregnancy. It can be managed by operative laparoscopy to easily remove the small and less vascular placental tissue. We report a case of a 27-year-old woman who was admitted to the emergency room, complaining of bladder tumor symptoms such as sudden low back pain, change in urine color, and voiding difficulty. Diagnostic laparoscopy was performed and detected an unruptured ectopic focus attached to the cervical-isthmic area on the bladder peritoneum. Uterus, bilateral fallopian tubes, and ovaries were intact without any sign of rupture. In conclusion, peritoneal irritation, voiding difficulty, and most importantly, bladder tumor symptoms can be confused with other causes of acute abdominal disorders, such as abdominal pregnancy, which is detrimental and should be essentially considered.

Keywords: Bladder ectopic pregnancy; primary abdominal pregnancy; painful urinary retention; laparoscopic management; IVP

Extrauterine or ectopic pregnancy is the implantation of the blastocyst outside the endometrial cavity of the uterus. It is life threatening, accounting for ~6% of maternal deaths occurring in the first week of pregnancy.[1] The risk of mortality is 7-8 times higher than tubal pregnancies and 50 times higher than normal intrauterine pregnancies.

Tubal pregnancy accounts for 95% of the ectopic pregnancies, followed by ovarian (3.2%) and abdominal (1.3%) pregnancies.[2] In abdominal pregnancies, the gestational sac is commonly implanted in the pelvis or in highly vascular areas, such as the liver and mesentery. Abdominal pregnancy is more common in developing countries. It can reach up to term, but fetal mortality is approximately 95%. The incidence of congenital anomaly is 20-40%, and abnormalities, such as intrauterine growth retardation, fetal pulmonary hypoplasia, compression deformities, and facial and extremity anomalies, can be seen. Therefore, perinatal mortality and morbidity are increased. Risk factors of abdominal pregnancy include pelvic inflammatory disease, multiparity, endometriosis, assisted reproductive techniques, and tubal injury. However, the primary reason for abdominal pregnancy in developing countries is the prevalence of increased pelvic inflammatory disease.[3] The diagnostic criteria of primary abdominal pregnancies are as follows: normal tubae and ovaries; no uteroplacental fistula, early enough to rule out the possibility of secondary nidation; and presence of pregnancy on the peritoneal surface. Primary abdominal pregnancy refers to pregnancy where in the implantation of the fertilized ovum occurs directly in the abdominal cavity. In such cases, the fallopian tubes and ovaries are intact. Secondary abdominal pregnancy accounts for most cases of advanced extrauterine pregnancy. It occurs following a tubal pregnancy wherein the tube ruptures or aborts and the embryo is reimplanted within the abdomen.[4] Most of the reported abdominal preg-

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nancies are secondary to tubal abortion or rupture of the defected or deformed gestational uterus.[5] Majority of the secondary abdominal pregnancies happen after spontaneous abortion of tubal pregnancy or ruptured intrauterine pregnancy. In this type of pregnancy, the gestational tissue is expelled spontaneously into the peritoneal cavity through the defect in the primary implantation site, such as in the case of tubal abortion or uterine rupture.[6] Abdominal pregnancy affects 1 in 10,000 gestations, with a maternal mortality rate of 6%.[7] The trophoblast tissue can be attached to the uterine wall, intestines, mesentery, liver, spleen, bladder, and ligaments; once it invades large vessels, severe hemorrhage can occur.[8] With early diagnosis and treatment, potential mortality can be seriously reduced. Urinary system involvement is rare; it frequently occurs after the disruption of an abdominally implanted ectopic focus, resulting in fistula to the bladder.[9,10] Consequently, abdominal pregnancies should be terminated as soon as they are detected. Herein, we present a case of primary abdominal pregnancy wherein the gestational sac was implanted on the bladder.

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A 27-year-old woman, gravida 2, para 1, had previously had a cesarean section at another hospital. The date and the indication for section were not known. She was admitted to the emergency room, complaining of sudden severe low back pain, change in urine color, and feeling the need to urinate but unable to pass urine. Physical examination revealed abdominal and flank tenderness upon palpation. She was normotensive and had no fever. Furthermore, urinalysis was conducted wherein sterile urine was obtained using a Foley catheter; urine culture was negative, and no sign of urinary tract infection was detected. The hemoglobin level was 12.5 g/dL, the heart rate was 120 bpm. The patient was then suspected to have renal colic or bladder tumor without any infection and history of trauma or obstruction. To rule out acute appendicitis, we performed computed tomography (CT) after the patient consulted for a general surgery (Figure 1). Pregnancy was not suspected, and the βhCG level was not approved by the laboratory. Shortly, the

FIGURE 1: CT scan shows that the conception product degenerates the bladder serosa.

FIGURE 2: A transvaginal ultrasound scan showing an empty uterine cavity and an ectopic focus detected on the cervical–isthmic area on the bladder.

βhCG level was found to be positive. Thereafter, the patient was evaluated by transvaginal ultrasound in the emergency department of the obstetrics and gynecology polyclinic (Figure 2). The patient was then diagnosed with an ectopic pregnancy with a positive fetal heart rate, a crown-rump length consistent with 6 weeks and 3 days of pregnancy, an empty uterine cavity, and a 6 mm endometrial thickness. The βhCG level was 18,014 mIU/mL. Her vitals were stable

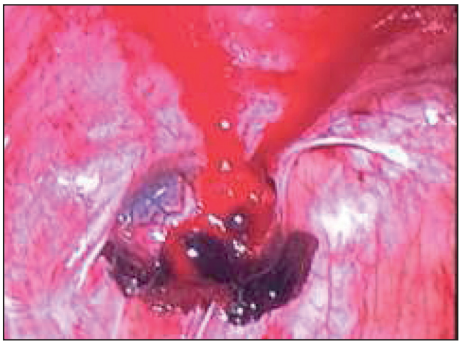

FIGURE 3: Conception product at approximately 3×2 cm was detected on the bladder peritoneum.

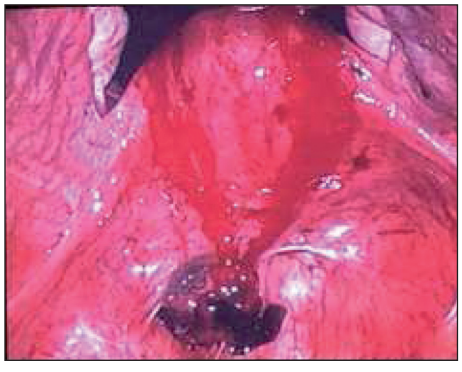

FIGURE 4: Uterus, bilateral fallopian tubes, and ovaries were intact without any sign of rupture.

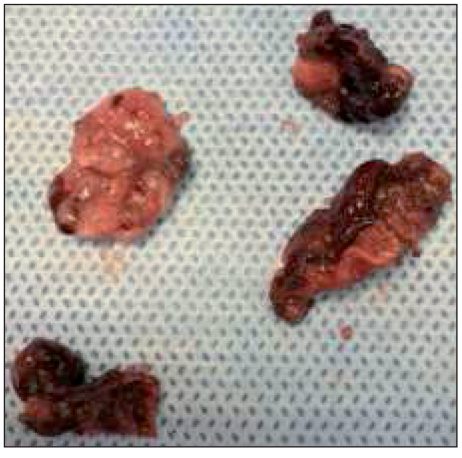

FIGURE 5: The removed conception product was approximately 3×2 cm. Histologic examination revealed hemorrhagic decidua and degenerated chorion villi with ectopic grosses.

without any vaginal bleeding. In terms of medical history, she had no chronic diseases, previous ectopic pregnancy, or previous surgical operation other than a cesarean section. During follow-up at 2 days after emergency room admission, she was intravenously administered with 75 mg of methotrexate when the βhCG level was 19,115 mIU/mL. However, 24 hours after methotrexate administration, she complained of difficulty in urinating and severe lower back and abdominal pain. Hence, she underwent diagnostic laparoscopy; a 2-3 cm ectopic focus was detected on the cervical-isthmic area on the bladder peritoneum (Figure 3). Uterus, bilateral fallopian tubes, and ovaries were intact without any sign of rupture (Figure 4). The attached ectopic focus was dissected off the serosa of the bladder (Figure 5). Postoperatively, follow-up βhCG levels decreased significantly. Moreover, we performed postoperative IVP and found no bladder injury. The silicone catheter was left in the bladder for at least 15 days. The specimen was pathologically examined and revealed hemorrhagic decidua and degenerated chorion villi with ectopic grosses. Primary abdominal pregnancy was successfully terminated in time without any surgical complication. Written informed consent was obtained from the patient for publication of this case report and accompanying images.

DISCUSSION

Abdominal pregnancy affects 1 in 10,000 gestations, with a 6% maternal mortality rate.[7] The trophoblast tissue can be attached to the uterine wall, bowel, mesentery, liver, spleen, bladder, and ligaments; severe blood loss may occur once it invades large vessels.[8] Rare cases of iatrogenic abdominal pregnancy have been found to be related to surgical procedures, such as salpingectomy before in vitro fertilization (IVF) and hysterectomy, and pelvic inflammatory disease or endometriosis-related tubal injuries.[11-13] Once pregnancy is established, the location of the pregnancy is typically made by ultrasound examination. Differentiating abdominal pregnancy from tubal pregnancy in early gestation is difficult when the trophoblast tissue implants around the adnexa. Certain diagnostic tools can be used to make a differential diagnosis in rare obstetric conditions, such as abdominal pregnancy. In evaluating the current case, we had to use CT to verify by accident. Meanwhile, noncontrast magnetic resonance imaging (MRI) is a sensitive, specific, and accurate method that is preferred in some clinics for determining ectopic pregnancy

and may facilitate surgical planning.[14] In tubal pregnancies, primary methotrexate therapy at early gestation has a high risk of failure. Abdominal pregnancy at first trimester can be managed by operative laparoscopy, considering that detaching a small and less vascular placental tissue is easier than when detaching an already huge and highly vascular tissue.[15] Regular follow-up is necessary to early recognize inflammatory changes related to necrotic placenta; these changes include delayed hemorrhage, intestinal or ureteral obstruction, fistula involving abdominal organs, abscess formation, and sepsis.[16,17]

Acute urinary retention is a rare symptom of an ectopic pregnancy, with only one case reported so far.[18] In our case, we observed intact internal genitalia and ectopic conception product embedded in the bladder peritoneum without unusual symptoms other than the inability to urinate. Ectopic pregnancy is a gynecological emergency with valuable morbidity and mortality. A high level of suspicion must be conserved, and primary abdominal pregnancy should be assumed early in the diagnosis in any female of reproductive age with hematuria, costovertebral angle sensitivity, and renal colic pain, even with the presence of other more apparent pathological processes. Such assumption was applied in our case wherein the patient exhibited sudden dramatic low back pain, change in urine color, and acute urinary retention symptoms resembling bladder tumor symptoms. Consequently, primary abdominal pregnancy is confirmed using the abdominal criteria of Studdiford.[4] The use of laparoscopy may also provide optimal diagnosis and treatment for the management of unforeseen abdominal pregnancy in chosen patients. Primary abdominal pregnancy is extremely rare and may be lethal in delayed diagnosis. The current case shows us that peritoneal irritation, voiding difficulty, and most importantly, bladder tumor symptoms can be confused with other causes of acute abdominal diseases, and abdominal pregnancy should be taken into account.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Rabia Merve Palalıoğlı;* ***Design:*** *Rabia Merve Palalıoğlı;* ***Control/Supervision:*** *Halil İbrahim Erbıyık;* ***Data Collection and/or Processing:*** *Rabia Merve Palalıoğlı;* ***Analysis and/or Interpretation:*** *Halil İbrahim Erbıyık;* ***Literature Review:*** *Rabia Merve Palalıoğlı, Halil İbrahim Erbıyık;* ***Writing the Article:*** *Rabia Merve Palalıoğlı, Halil İbrahim Erbıyık;* ***Critical Review:*** *Rabia Merve Palalıoğlı, Halil İbrahim Erbıyık.*

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