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Early Primary Abdominal Ectopic Pregnancy

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Abstract

Background: Primary abdominal ectopic pregnancy is extremely rare. Abdominal ectopic pregnancy is often overlooked. This case is to report an early primary abdominal ectopic pregnancy managed successfully.

Case report: A 32-year nulliparous woman presented with presented with sudden onset acute lower abdominal pain. Urine pregnancy test was positive. Ultrasonography of the pelvis showed a right adnexal mass with gestational sac. Emergency laparotomy was performed and noted an abdominal ectopic pregnancy on the right side of the adnexa adhered to large bowel. Adhesiolysis was done and the mass was removed. On postoperative day-4, inj methotrexate was administered and patient recovered.

Conclusion: Every gynaecologist needs to have a high index of suspicion and a better understanding and interpretation of clinical and image findings and deal promptly to obviate grievous consequences.

Teaching points:

1. Early primary abdominal ectopic pregnancy can be safely managed with surgical intervention without grievous consequences.

2. Inj. Methotrexate can be used in the management of abdominal ectopic pregnancy when there is doubt of residual trophoblastic tissues left behind.

Keywords: Inflammatory disease • Ultrasonography • Abdominal ectopic pregnancy • Laparotomy • Gestational sac

Introduction

Ectopic pregnancy is defined as the implantation of a fertilized ovum outside the uterine cavity. In over 94% of the cases, an ectopic pregnancy occurs in the fallopian tubes [1]. In an abdominal ectopic pregnancy, the fertilized ovum gets implanted anywhere in the peritoneal cavity to different bizarre intraperitoneal sites, which is an extremely rare finding. The common sites of implantation of abdominal pregnancy are uterine wall, bowel, mesentery, liver, spleen, bladder, ligaments, and lumbar vertebrae [2].

The abdominal ectopic represents <1% of all ectopic pregnancies [3]. The incidence of abdominal ectopic pregnancy is 2-3 per 10,000 deliveries [2,4]. Abdominal pregnancy is classified as primary and secondary abdominal ectopic pregnancy. In a primary abdominal ectopic pregnancy, the fertilized ovum gets implanted directly into the peritoneal cavity and in secondary abdominal pregnancy, the fertilized ovum gets aborted or ruptured from the tubes and gets secondarily implanted into the peritoneal cavity and gets blood supply from the surrounding organs.

The abdominal ectopic pregnancy is often overlooked and commonly treated as pelvic inflammatory disease or urinary tract infection in pregnancy [2]. The delay in diagnosis and advancement of abdominal pregnancy is associated with torrential bleeding and high maternal and perinatal mortality and morbidity [5]. However, there are reports of a successful outcome of advanced abdominal pregnancy with alive fetuses [6-8]. The risk factors for abdominal ectopic pregnancies are pelvic inflammatory disease, pelvic surgeries, abortions, and previous ectopic pregnancies [1] and in some, there are no identifiable risk factors. The clinical presentation of the abdominal pregnancy is similar to ectopic pregnancies at other sites and most of the patients present with a brief history of amenorrhea followed by sudden onset abdominal pain and spotting per vagina [1-5].

Ultrasonography is the single best diagnostic modality in corroboration with the clinical features in evaluating suspected abdominal ectopic pregnancy although there are no specific diagnostic criteria. There is no specific biomarker in abdominal pregnancy that will aid in deciding on the modality of the treatments. The management may include surgery, medical treatment with methotrexate, or expectant management. Minimally invasive approaches are increasingly used for the treatment of ectopic pregnancies in the current obstetrical practice. We report an early abdominal ectopic pregnancy at 7^{+1} weeks of gestation managed with laparotomy.

Case presentation

A 32-year old, nulliparous woman presented with sudden onset severe lower abdominal pain since 7th June 2021. She also complains of foul smelly vaginal discharge associated with itchiness at the vulva, suprapubic pain, and dysuria. She could not visit the hospital due to lockdown in Phuentsholing. She was seen at home on 9th June 2021 by the mobile medical team and treated for the pelvic inflammatory disease with doxycycline, metronidazole, azithromycin, and paracetamol. Despite the treatment, the pain has increased in severity, for which she called 112 for an ambulance and visited Phuentsholing hospital on 14th June 2021 and consulted a medical officer at the Out Patient Department (OPD). The patient gave a history of three abdominal surgeries in the past; appendicectomy, abdominal hernia repair, and laparoscopic ovarian cystectomy.

On clinical examination, all the vitals were unremarkable except there was curdy whitish discharge on per speculum examination and mild tenderness in the right adnexa. Urine routine examination showed numerous WBC and a high vaginal swab for microscopy showed a normal report. Ultrasonography of the pelvic organ was inconclusive. Urine for pregnancy strip test was weakly positive despite she had her last menstrual period on 12th May 2021. She was treated for urinary tract infection in pregnancy and planned to follow up with repeat ultrasonography of the pelvic organ in two weeks.

However, the pain in the lower abdomen aggravated over time, and it became unbearable.She got admitted to the maternity ward on 22nd June

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2021. On examination, the patient was mildly anemic, pulse was 98 beats/minutes, BP of 130/70 mmHg, and rest of the vitals are within normal range. On abdominal examination, severe tenderness was present on the right iliac fossa, and the mass could not be felt. On pelvic examination, cervical excitation was present and a severe tender mass was felt through the right adnexa, the size of the mass could not be delineated due to tenderness. Repeat urine pregnancy strip test was strongly positive. The repeat ultrasonography showed an ill-defined mixed echogenic area noted in the right adnexal region measuring 9.8 × 7.6 × 5.6 cm with gestational sac corresponding to 7+1 weeks without a fetal pole, yolk sac, or cardiac activity and minimal free fluid in the Pouch of Douglas. The uterus was of normal size with no feature of intrauterine pregnancy and the rest of the pelvic organs were unremarkable. The ultrasonography finding was suspected of ovarian ectopic pregnancy (Figure 1).

Emergency exploratory laparotomy was performed and found moderate hemoperitoneum and a globular mass of 10 × 8 cm in the right adnexa within the organized blood clot which was adhered to the large bowel and the omentum(Figure 2a and 2b). The working diagnosis was changed to primary abdominal ectopic pregnancy.

There was dense adhesion between the omentum, bowel, and the posterior uterine wall. Both the fallopian tubes were found inflamed and edematous, and both the ovaries were intact with cystic changes. The hemoperitoneum was sucked out and the adhesiolysis was done and the blood clot was scooped out along with the mass from the right adnexa. Peritoneal irrigation was performed with the warm saline and a drain kept in situ. Two units of blood were transfused per operatively. The recovery and postoperative period were uneventful. Beta hCG level was 475.5 IU/ml on postoperative day-4. A single dose of inj. Methotrexate 50 mg/m^2 IM was given on postoperative day-4; and inj. Folinic acid 0.1 mg/kg IV was given 24 hours after methotrexate administration. The postoperative day-7 urine for pregnancy strip test was negative and the beta hCG level was 5 IU/ml. The patient was discharged home on postoperative day-7 on 29th June 2021.

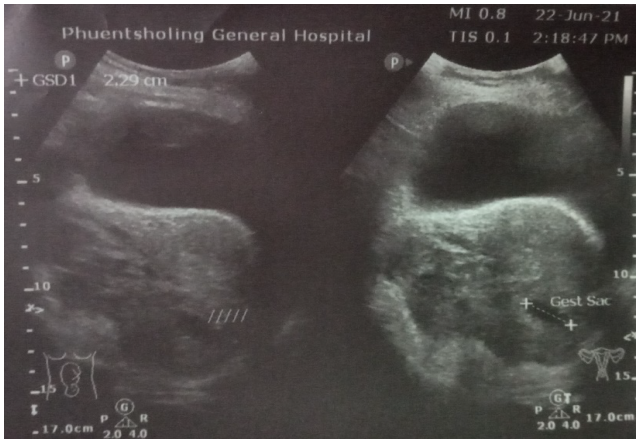

Figure 1. Ultrasound image showing right adnexal mass with gestational sac.

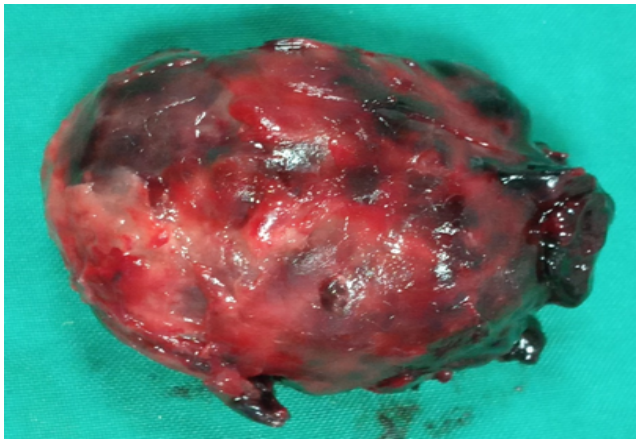

Figure 2. (a) Per operative finding of the mass (globular mass).

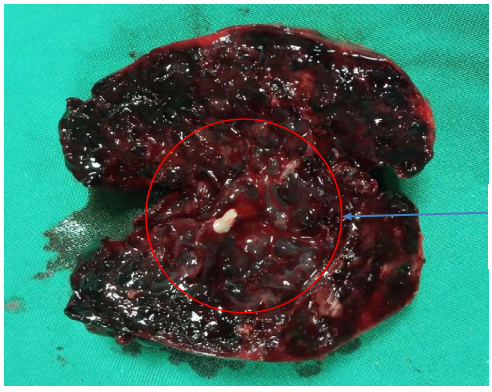

Figure 3. (b) cut section of the mass showing the gestational sac.

Discussion

Abdominal ectopic pregnancy is exceedingly rare, however, ectopic pregnancy is thought to occur more commonly in developing countries due to the high incidence of pelvic inflammatory diseases [1]. In the current case, the patient had undergone repeated abdominal and pelvic surgeries and had pelvic inflammatory diseases which are the likely attributing factors for the abdominal pregnancy. In the abdominal ectopic pregnancy, the fertilized ovum gets implanted into the bizarre sites in the peritoneal cavity most commonly secondary to ruptured or aborted tubal ectopic pregnancy [9]. The primary abdominal ectopic pregnancy is the most likely possibility in the current case since there were no features of nidation in both the fallopian tubes and ovaries and there were no features of uterine pathology, and the ultrasonography excluded the intrauterine pregnancy. The likely postulated mechanism for the primary abdominal ectopic pregnancy is the ovum getting fertilized with the pool of spermatozoa in the Pouch of Douglas and getting implanted in the peritoneal cavity, more commonly in the pouches around the uterus, adnexa, and the other pelvic organs [10]. Initially, the patient was treated for pelvic inflammatory diseases and urinary tract infections.

Although ultrasonography is the single most diagnostic modality of choice, in more than 50% of the cases of abdominal ectopic pregnancy, the diagnosis is delayed or missed [2]. Despite the urine pregnancy test was positive, since the initial ultrasonography has failed to appreciate the abdominal ectopic pregnancy, the patient was treated for urinary tract infections with the assumption of early intrauterine pregnancy. The repeat ultrasonography was suggestive of ovarian ectopic pregnancy, however, a definite diagnosis of abdominal ectopic pregnancy was made with the per-operative findings of a mass in the right adnexa adhered to large bowel within the organized blood clot with intact tubes and ovaries. When the ultrasonography reports are inconclusive and equivocal in diagnosing ectopic pregnancies, MRI can be performed to supplements the findings. In the current case, although the initial ultrasonography was inconclusive the repeat one was suggestive of ectopic pregnancy in corroboration with the clinical findings, and the need for MRI was obviated.

Unlike a tubal ectopic pregnancy, there is no guideline on the use of beta hCG levels in planning for management for the abdominal ectopic pregnancy. In the majority of the abdominal ectopic pregnancy cases reported in the literature, surgical intervention was the main treatment modality used. However, some cases have reported on the use of medical treatment with methotrexate, and few used combined surgical and medical methods [2]. In this report, the patient was managed with laparotomy followed by the use of a single dose of inj. Methotrexate 50 mg/m^2. The methotrexate was given following the laparotomy to clear the rapidly dividing trophoblastic cells which might have been left behind adhered to the large bowel and the surrounding tissues [10].

Conclusion

Abdominal ectopic pregnancy is often missed diagnosed and advancement in pregnancy leads to a potentially life-threatening condition. Every gynecologist needs to have a high index of suspicion and a better understanding and interpretation of clinical and imaging findings in abdominal ectopic pregnancy and deal promptly to obviate grievous consequences.

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