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Ruptured primary abdominal ectopic pregnancy- management in a resource-low setting

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ABSTRACT

Abdominal ectopic pregnancy is a rare form of ectopic pregnancy, which has a high mortality. Herein, we present a case of ruptured primary abdominal ectopic pregnancy implanted on sigmoid mesocolon in a 36-year-old woman. This case report highlights the challenges faced by obstetrician-gynecologist in the diagnosis and management of abdominal ectopic pregnancy in a resource-low setting.

Keywords: Ectopic pregnancy; Laparotomy; Women's Health.

INTRODUCTION

Primary abdominal pregnancy results from direct implantation of the gestational sac in the abdominal peritoneum. However, most of the abdominal pregnancies are secondary, resulting from the implantation of gestational sac on the peritoneum after a tubal abortion[1]. The diagnosis of primary abdominal pregnancy is based on Studdiford's criteria[2].

The estimated incidence of abdominal pregnancy is 1.3 % of all ectopic pregnancies[3]. The incidence of ectopic pregnancy at the Jigme Dorji Wangchuck National Referral Hospital (JDWNRH) between 2018 and 2019 was 12.7 per 1000 pregnancies, with zero incidence of abdominal ectopic pregnancies[4].

There are reported cases of abdominal ectopic pregnancy after in vitro-fertilization (IVF), intrauterine insemination (IUI), as well as after spontaneous conception[1,5–7].

Herein, we report a case of ruptured abdominal ectopic pregnancy which was diagnosed incidentally during an emergency laparotomy for a suspected ruptured tubal ectopic pregnancy. This case report highlights the diagnostic and management challenges faced by obstetrician-gynecologists in resource-low setting.

CASE REPORT

A 36-year-old, mother of one child, was referred from a local health facility to the Emergency Department (ED), JDWNRH, Thimphu, Bhutan with severe abdominal pain and fainting attack following delayed menstruation by three weeks from her last menstrual period.

She had regular menstrual cycle every 28 days with mild dysmenorrhea. She did not give the history dyspareunia. She was not using any contraception after her last childbirth (4 years ago), which was delivered by emergency caesarean section due to fetal distress. She doesn't have a history suggestive of pelvic inflammatory disease.

This time, her menstrual cycle was delayed by three weeks. Then, she experienced vaginal bleeding associated with mild abdominal cramps for one week. After a week of vaginal bleeding, she had a sudden onset severe lower abdominal pain, associated with fainting attack. Upon visiting local health facility, she was seen by a primary health worker and treated with analgesics (Injection Diclofenac sodium 75mg intramuscular (IM), Tablet paracetamol 500mg and Tab dicyclomine 10mg) empirically. After consultation with the on-call doctor of JDWNRH, she was urgently referred to this hospital.

On admission to ED, JDWNRH, she was in distress due to severe generalized abdominal pain. She was pale, her pulse rate was 133 beats/minute, her blood pressure was 140/90 mmHg, and her SpO2 on room air was 96%. Her abdomen was tender with rigidity and guarding. Per-vaginal examination showed soft cervix with severe cervical motion tenderness, and adnexal tenderness. Other system examinations were not significant. Urine gravi-index test was positive. Focused assessment with sonography in trauma (FAST) scan done in the ED, revealed a significant free fluid in the pouch of Douglas and Morrison's pouch.

With the clinical diagnosis of ruptured tubal ectopic pregnancy, emergency exploratory laparotomy under general anesthesia was planned, and informed written consent was taken

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from the patient and her husband. Under general anesthesia, suprapubic transverse skin incision with excision of the previous scar was made, and the peritoneal cavity was opened into at 9:03 pm on the day of admission. There was hemoperitoneum of about 800 ml fresh blood mixed with clots. The uterus was bulky with normal looking bilateral tubes and ovaries. On exploring the cause of bleeding, the ectopic pregnancy implanted on sigmoid mesocolon with fresh bleeding was noted (Figure 1). The implanted ectopic tissue was excised and sent for histopathological examination, and the bleeding site was controlled by diathermy coagulation. She was transfused 2.0 units of pack red cell (PRC) during surgery while waiting for her hemoglobin report, as she was clinically very pale. Peritoneal washing with normal saline was done, a drain was kept in situ, and abdominal wall closed in the standard fashion. Her serum ß-HCG was 12860 IU/ml and Hb was 9.5g/dl, which were available only after the operation.

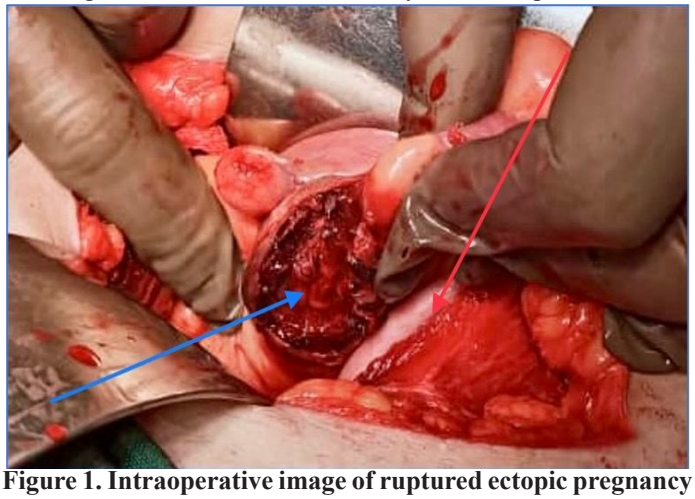

Figure 1. Intraoperative image of ruptured ectopic pregnancy (blue arrow) implanted on sigmoid mesocolon (red arrow) in a 36-year-old woman during emergency laparotomy for a suspected ruptured tubal ectopic pregnancy

Microscopic examination of the tissues from sigmoid mesocolon (Figure 2a, b) revealed chorionic villi and scattered trophoblastic cells among blood clot and fibrin deposition. No significant trophoblastic proliferation or atypia or fetal component were identified in the plane of examination. The histology report and surgical finding confirmed the diagnosis of primary abdominal ectopic pregnancy.

As there was no empty bed in the adult intensive care unit (AICU), her postoperative monitoring was continued in general maternity ward. Her abdominal drain was removed on third postoperative, she had an uneventful postoperative recovery and discharged home on fourth postoperative day.

Upon review in the gynecology out patient department (GOPD) on 7th postoperative day, her stitches were removed and she had no other complaints. Her serum ß-HCG level was 2.54 IU/ml (normal <5.3) on 28th day after the surgery. She defaulted to check serum ß-HCG on weekly interval due to some social reasons at home.

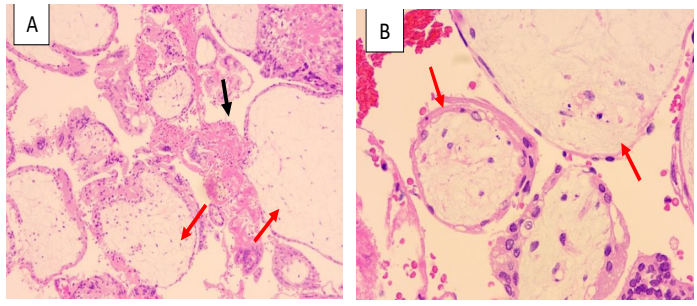

Figure 2 (a and b). Microscopic images of tissue from sigmoid mesocolon displaying chorionic villi (red arrows) among fibrin deposition (black arrow) (Hematoxylin and Eosin stain, 100x)

DISCUSSION

Primary abdominal pregnancy results from direct implantation of gestational sac on the peritoneum, which is diagnosed on the basis of Studdiford's criteria[1,2]. The three diagnostic criteria of Studdiford include normal bilateral fallopian tubes and ovaries without evidence of remote or recent injury; no evidence of any uteroperitoneal fistula; and the pregnancy is present exclusively to the peritoneal surface and young enough to exclude the possibility of secondary implantation following primary nidation in the fallopian tube. Our patient was a 36-years old, sexually active woman with delayed menstruation by three weeks with positive serum ß-HCG, with intraoperative findings that fulfilled Studdiford's diagnostic criteria.

In a systematic review of early abdominal ectopic pregnancies, the mean gestational age at the time of treatment was 10 weeks and the mean maternal age was 29.7 years. In this review, 24.3% of abdominal ectopic pregnancies were in the pouches around the uterus, 23.9% on the serosal surface of the uterus and tubes, and 12.8% in multiple sites[8]. In another systematic review of 28 abdominal ectopic pregnancy after IVF and single embryo transfer, only one case was reported to have abdominal ectopic pregnancy on sigmoid mesentery which was not ruptured[5]. In our case, the abdominal ectopic pregnancy was located on sigmoid mesentery which was ruptured with massive hemoperitoneum of about 800 ml. In contrast, a systematic review revealed a higher average blood loss of about 1,450 ml[8].

Ultrasound scan is the useful initial diagnostic procedure, but findings are dependent on examiner's experience, and the quality of machine. Transvaginal scan (TVS) is superior to transabdominal scan (TAS) to evaluate ectopic pregnancy, because the uterus and adnexa are better seen with TVS[9]. In our case, FAST scan revealed free fluid in pouch of Douglas and Morrison's pouch. MRI was not done in our case, as she was in critical condition. Otherwise, non-contrast MRI using T2-weighted imaging is specific, sensitive, and accurate for ectopic pregnancy[10].

Abdominal ectopic pregnancies were treated by removal of ectopic tissues with either laparoscopy or laparotomy with or without adjuvant methotrexate[5]. Emergency laparotomy followed by removal of ectopic tissues from the sigmoid mesocolon, followed with serial postoperative monitoring of serum ß-HCG was successful in our case. There was no requirement for administration of methotrexate. The morbidities associated in this case were - transfusion of two units of PRC, and intra-abdominal drain kept in situ for three days.

CONCLUSIONS

Gynecologist-Obstetrician working in a resource-low setting should be aware of the possibility of abdominal ectopic pregnancy while performing laparotomy for a suspected ruptured ectopic pregnancy. He or she should possess knowledge and skills to manage such a case with the minimal diagnostic and therapeutic facilities available in the hospital. In the presence of normal looking uterus and adnexa, one should look for ectopic pregnancies implanted elsewhere in the abdominal cavity. Excision of ectopic tissues should be followed by serial monitoring of serum ß-HCG level.

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Declaration of conflicting interests

INFORMED WRITTEN CONSENT was obtained from the patient for her anonymized information to be published in this article.

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