

BILATERAL TUBAL ECTOPIC PREGNANCY: A CASE REPORT

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Abstract

Introduction: Bilateral tubal ectopic pregnancy without prior fertility treatment is rare and, although true incidence is unknown, about 250 cases have been reported in medical literature so far. Its diagnosis is commonly made during surgery as pre-operative diagnosis is difficult. To the best of our knowledge, this is the first reported case of spontaneous bilateral tubal ectopic pregnancy in Ghana.

Case Presentation: We report on a 25-year-old G2P1A who had an exploratory laparotomy done on account of a ruptured right ectopic pregnancy. Examination of the

contralateral tube at surgery, however, revealed an unruptured ampullary ectopic pregnancy and diagnosis was thus revised to a bilateral tubal ectopic pregnancy. A right salpingectomy and left salpingostomy were carried out as she had future fertility wish.

Conclusion: Bilateral tubal ectopic pregnancies present a number of diagnostic challenges pre-operatively and examination of the contralateral tube, especially for those cases requiring surgical intervention, cannot be over – emphasized in the management of tubal ectopic pregnancies in general.

Key words: Case report, bilateral tubal ectopic pregnancy, salpingectomy, salpingostomy

Introduction

Bilateral tubal ectopic pregnancy is an infrequent variant of ectopic and twin pregnancy, in which there is simultaneous development of fertilized eggs or embryos in both fallopian tubes. Although its incidence is on the ascendency as a result of the rising patronage of assisted reproductive services, spontaneous occurrence is rare. Its clinical presentation, like that for unilateral ectopic pregnancies, varies from incidental discoveries to acute emergencies. Management options are dictated by the clinical presentation, the part of the tube occupied by the pregnancy, the extent of tubal damage, desire for future fertility and available resources.

Case Presentation

We present the case of a 25-year-old trader, who presented with a day's history of cramp-like lower abdominal pain and bleeding per vaginam with associated dizziness. She had a two (2) month history of amenorrhea prior to this presentation and was sexually active with two (2) lifetime sexual partners. She did not have any previous history of treatment for sexually transmitted infections (STI's) or pelvic inflammatory disease (PID). She had no history of intrauterine contraceptive use and had not received any fertility treatments. Her past obstetric, past medical and drug histories were unremarkable. She was single and had primary level education.

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At presentation, she had a Glasgow coma score (GCS) of 15/15, but was clinically pale with a blood pressure (BP) of 140/100mmHg, pulse rate of 79bpm, respiratory rate of 24cpm and temperature of 36.9°C. She had generalized abdominal tenderness and guarding with no obvious distension. On pelvic examination, there was no bleeding observed per vaginam. She had a bulky uterus with cervical motion tenderness. Urinary pregnancy test (UPT) done was positive. Bedside clotting time was 4minutes. Random blood sugar (RBS) was 11.8mmol/L. On transabdominal ultrasound, no gestational sac was observed within the uterine cavity, the endometrial stripe appeared thickened. No obvious adnexal masses observed on USG. A culdocentesis was done which yielded about 2mls of non-clotting blood. She was counselled on her condition, the need for immediate surgical intervention and the likelihood of losing the affected tube if ruptured tubal ectopic pregnancy is confirmed intra-op. She gave consent for the procedure and was prepared for an emergency laparotomy on account of hemo-peritoneum secondary to suspected ruptured ectopic gestation. Her complete blood count, done pre-operatively, revealed a hemoglobin level of 5.6g/dL and a platelet count of $172 \times 10^3/uL$. The intra – operative findings were:

(i) bilateral ampullary ectopic gestation.

- Right tubal (ampullary) gestation was ruptured and measured about 4.5cm x 3cm x 2cm.
- Left tubal gestation was unruptured and measured 1cm x 0.5cm x 0.5cm, [the ampullary part of this tube was ballooned with an appearance which was initially mistaken for a hydrosalpinx (see figure 1) and was almost missed and left untouched. An incision made on the anti-mesenteric border of that portion of the tube exposed dark 'placenta-like' tissue beneath. These were gently removed and sent,

alongside the right tubal gestation, for histopathology].

(ii) **Uterus and ovaries were normal.**

(iii) **Hemoperitoneum of about 1800mls.** Total estimated blood loss was about 2000mls.

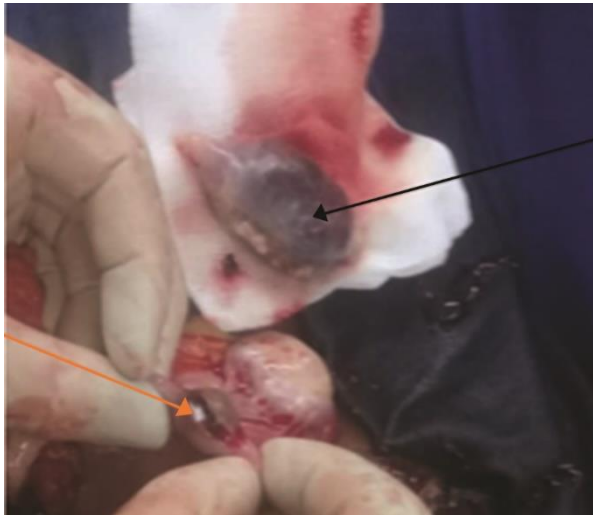


Fig 1: Bilateral tubal ectopic gestation at surgery. Black arrowhead points to the right tubal gestation. Orange-colored arrowhead points to the left tubal gestation

A right salpingectomy and left salpingostomy were carried out and specimen sent for histopathology. She was hemotransfused post-operatively and counselled on the intra-operative findings and what was done at surgery. She was informed that her chance for natural conception had reduced due to her condition, as the tubes play an important role in natural conception. She was also informed that the tubal-sparing surgery done in the tube with unruptured pregnancy was to improve her chances of conceiving naturally. This however increases her risk of recurrence; thus, she should report immediately she misses her menses for assessment to determine pregnancy location. The post – operative period was otherwise unremarkable and she was discharged on post op day 2. A follow-up hysterosalpingography (HSG) was scheduled to assess the patency of the left fallopian tube. The client, however, is yet to report for the procedure. Histopathological studies of specimen removed at surgery confirmed the presence of trophoblastic villi, trophoblastic cells and decidua in both tubes (figure 2), consistent with the diagnosis of bilateral tubal ectopic gestation. Also noted in the salpingectomy specimen were findings consistent with salpingitis isthmica nodosa (shown in figure 3), a known risk factor for tubal gestations.

Discussion

Ectopic pregnancies remain an important cause of maternal morbidity and mortality. Incidence varies with figures between 1 in 150 to 1 in 300 deliveries.¹ Facility–based studies in Ghana have reported

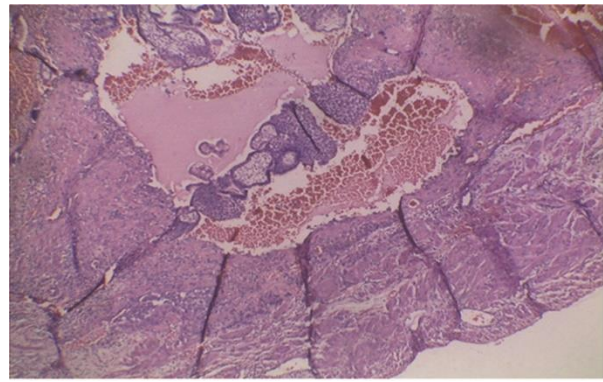


Fig. 2 chorionic villi and associated decidua infiltrating the muscularis propria with surrounding hemorrhage

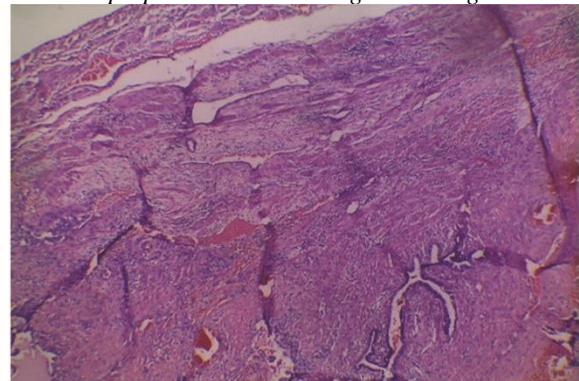


Fig. 3 invagination of surface tubal epithelium deep into the wall with surrounding smooth muscle bundles consistent with salpingitis isthmica nodosa

incidences of 10.6% and 2.054% of all gynecological admissions in Komfo Anokye Teaching Hospital (KATH) and the Volta Regional Hospital respectively and 32.90 per 1000 deliveries in Korle – Bu Teaching Hospital (KBTH).²⁻⁴ Statistics in the Cape Coast Teaching Hospital (CCTH) revealed ectopic pregnancies accounted for about 15.7, 24.8 and 20.6 per 1000 deliveries for years 2016, 2017 and 2018 respectively. (CCTH Annual Performance Report; unpublished). The commonest site for ectopic pregnancy is the fallopian tube. Rarer variants of ectopic pregnancy such as cervical, ovarian, broad ligament, caesarean scar and bilateral tubal ectopic pregnancies have also been reported in literature.⁵ Ghana has reported cases of cervical and caesarean scar ectopic pregnancy.^{6,7} Till date, however, there is no published case report from Ghana on bilateral tubal ectopic pregnancy. Bilateral tubal ectopic pregnancies could arise as a result of fertility treatments or, more rarely, spontaneously. Comparatively, the incidence for bilateral tubal ectopic pregnancy arising from in – vitro fertilization is about 1 in 22 (45 in 1000) ectopic pregnancies as against 1 in 725 to 1 in 1,580 for those arising spontaneously.⁸ The description of fetal parts or fetus as well as placental parts from both the tubes was proposed by Fishback in 1939 as the criterion for the diagnosis of bilateral tubal ectopic pregnancy. This was modified in 1953 by Norris who stated that microscopic demonstration of chorionic villi in both tubes was

sufficient for the diagnosis.^{9,10} For the patient being presented here, even though fetal parts and placenta were not seen, she had trophoblastic villi, trophoblastic cells and decidua demonstrable in both tubes at histopathology. The diagnosis of bilateral tubal ectopic pregnancy was thus made using the Norris criteria. Describing the exact mechanism by which bilateral tubal ectopic pregnancies arise has been challenging. Proposed theories include multiple ovulation, sequential impregnation (i.e. when fertilization and development of a second oocyte occurs in a pregnant woman) and trans-peritoneal movement of trophoblastic cells from one tube to the other.¹¹ The risk factors for bilateral tubal ectopic pregnancies are similar to those for unilateral ectopic pregnancies and include assisted reproductive techniques, previous history of pelvic inflammatory disease, diverticulosis of the fallopian tube (salpingitis isthmica nodosa), intra-pelvic adhesions, previous tubal surgery among others. It is worth mentioning, however, that absence of these risk factors does not make the diagnosis unlikely as many of the cases reported did not have identifiable risk factors. Pregnancy outcomes for ectopic pregnancies include death of embryo with spontaneous resolution, tubal rupture or tubal miscarriage with resulting intra-peritoneal hemorrhage, pelvic hematocele or abdominal pregnancy.

In developed countries close to 90% or more of ectopic pregnancies are diagnosed unruptured due to early reporting and early diagnosis with transvaginal ultrasound, serum β -hCG and laparoscopy. In developing countries, however, diagnosis before rupture is uncommon.¹ Ruptured ectopic pregnancies may end in massive hemorrhage, disseminated intravascular coagulopathy and even death. Prompt diagnosis and early intervention are thus necessary to reduce the mortality associated with it. Prompt diagnosis requires a high level of suspicion, particularly in women in reproductive ages with any of the risk factors for ectopic pregnancy. Our patient had a classical presentation of a two-month period of amenorrhea, associated with a positive pregnancy test, bleeding per vaginam and pain in the lower abdomen. Clinical examination might reveal pallor, hypotension, tachycardia, cool clammy extremities, abdominal distension with generalized tenderness and guarding, cervical motion tenderness and adnexal tenderness on gentle vaginal examination (caution should be taken here as vaginal examination may cause more intraperitoneal bleeding). Culdocentesis has been largely replaced in modern practice by pelvic imaging, image guided aspiration of fluid and minimally invasive surgery. When positive (that is, when the aspirate from the cul-de-sac yields non clotting blood), it is suggestive of an intraperitoneal bleed with a specificity of 80%, sensitivity of about 66%, and a negative predictive value of about 25%.¹²

This patient being presented here, though seemed to have stable vital signs, had all the cardinal symptoms of ectopic gestation (amenorrhea, abdominal pain and vaginal bleeding). In addition, she was pale, had signs

of acute abdomen, a positive urinary pregnancy test, an inconclusive ultrasound findings and positive culdocentesis. These raised suspicion of a ruptured ectopic pregnancy for which she was prepared for an exploratory laparotomy. It must be stated, however, that neither clinical signs and symptoms, nor serum β - hCG can reliably differentiate between a unilateral and bilateral ectopic pregnancy.⁹ Ultrasonography, though very useful in modern day practice for pre-operative diagnosis, did not help us much in the management of this case. This is however not surprising as literature shows they are mostly missed. For example, the works done by De Los Rios et al and B. Zhu showed that ultrasound has only rarely picked up bilateral ectopic pregnancy preoperatively (two reviews carried out revealed 6 out of 16 and 2 out of 42 bilateral ectopic pregnancies were correctly identified using ultrasonography) and diagnosis is usually made intra-operatively.^{13,14} It is therefore very important for the examination of the contralateral tube to be done in all cases of gestational ectopic so as not to miss bilateral cases. The management of bilateral tubal ectopic gestation depends on the condition of the patient, extent of tubal damage and the desire for future fertility. There are no published guidelines regarding the management approach because of its rarity. However, previous studies have suggested that the principles for unilateral ectopic pregnancies management may be applied to bilateral tubal ectopic pregnancies too. In unruptured bilateral tubal ectopic pregnancies diagnosed pre-operatively, medical management with methotrexate may be given. Surgical management options include salpingectomy (the surgical removal of the affected fallopian tube, either totally or partially); salpingotomy (making an opening into the affected tubes to remove the product of conception and suturing it back) and salpingostomy (which involves making an incision on the anti-mesenteric border of the fallopian tube, removing the products of conception and leaving the incision open to heal by secondary intention). Comparatively, with regards to cumulative probability of ectopic pregnancies, there were no differences between salpingotomy and salpingostomy. Intra-uterine pregnancy, however, occurred earlier with salpingostomy compared to salpingotomy.¹⁵ Tubal conservative surgeries have been considered preferable, where possible, as studies have reported higher rates of intra-uterine pregnancies without an increased risk of ectopic recurrence rates when compared with salpingectomy.¹⁶ Risk of recurrence in the woman presented in this case, however, seems significant – this is because salpingitis isthmica nodosa is usually bilateral and though its presence could not be ascertained in the contralateral tube of this patient, as it was preserved, it carries with it a risk for recurrent ectopic pregnancies.¹⁷

Conclusion

Spontaneous bilateral ectopic pregnancies, though extremely rare, can occur. When ectopic gestations are

picked up on ultrasonography, the contralateral side should also be scanned to rule out a possible bilateral ectopic. Due to the rarity of its pre-operative diagnosis, however, examination of the contralateral tube during surgery for ectopic pregnancy is important in the diagnosis and holistic management of the patient. It is also worth mentioning that submitting specimen excised at surgery for histopathological / histomorphological studies is important as it may provide useful insights into the risk factors attributable to these pregnancies.

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