Bilateral ectopic pregnancy: case report and review of literature

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Abstract

Ectopic pregnancy represents 2% of all first trimester pregnancies. Bilateral tubal pregnancy is the rarest form of ectopic pregnancy. The estimated incidence is 1 in 725 to 1 in 1580 of all ectopic pregnancies. Totally, more than 200 cases of bilateral tubal ectopic pregnancy have been reported in the literature to date. The principle management is the conservative approach that attempts to save the tube, rather than salpingectomy. In the other hand, it is important to remember that hemorrhage from ectopic pregnancy is the leading cause of maternal death and accounts for 4 to 10 percent of all pregnancy related deaths. We present a case of a G5P2+2 with presented as 8 weeks ectopic pregnancy. Intra-operatively bilateral ectopic pregnancy was diagnosed. Accordingly, right chronic rupture ectopic seen and salpingectomy performed and oophorectomy done to control bleeding. In the left side, intact small ectopic was diagnosed and salpingostomy was accomplished.

Introduction

Blastocyst normally implants in the endometrial lining of the uterine cavity. Implantation anywhere else is considered an ectopic pregnancy. 2% of all first trimester pregnancies are ectopic pregnancies. The incidence of ectopic pregnancy has been reported to be increasing in many countries in recent years as a result of a number of factors. These factors include increased rate of sexually transmitted infections that damage the fallopian tubes, the use of antibiotic treatments for pelvic inflammatory disease, more accurate methods for early detection of ectopic pregnancy, increased use of assisted reproductive technologies and increased rates of tubal sterilization [1]. Prior tubal damage confers the highest risk for ectopic pregnancy [2, 3].

Estimated mortality rate for ectopic pregnancy are 32 per 100,000 deliveries compared with maternal death rate of 7 per 100,000 live births [4]. Twin tubal pregnancy with both embryos in the same tube as well as with one in each tube has been reported [5, 6]. Bilateral tubal pregnancies in the absence of preceding induction of ovulation are an extremely unusual occurrence and are thought to represent the rarest form of ectopic pregnancy. The estimated incidence of bilateral tubal pregnancy is 1 in 725 to 1 in 1580 of all ectopic pregnancies [1, 7, 8]. This is thought to correspond to an occurrence of one per 200,000 live births [9, 10]. They are usually diagnosed at the time of surgery [1, 11].

Fishback was the first to conduct a comprehensive review of the medical literature [11]. He established criteria to validate a diagnosis of simultaneous bilateral tubal pregnancy. He reported a series of 76 patients fulfilling the requisite criteria [11]. At the same time, he declared that there should be a description of the fetuses or fetal parts as well as of placental material. However, Norris claimed that microscopic identification of chorionic villi in each tube should suffice [12].

Edelstein reviewed the English-language literature in 1989 and found a further 22 cases [10]. Andrews reviewed the English-language literature years after Edelstein and revealed 45 further case reports [1]. Of these bilateral ectopic patients, 17 are associated with various treatments for infertility and assisted reproductive techniques, and 28 patients are listed as spontaneous. De Los Ríos, reviewed and analyzed 42 cases of bilateral ectopic pregnancies reported in the last 10 years [13]. On the other hand, Martinez made an unusual case report of early diagnosis by ultrasonography of a bilateral tubal ectopic pregnancy in 2009 [14]. Totally, more than 200 cases of bilateral tubal ectopic pregnancy have been reported in the literature to date [8].

Case Report

In Maternity and Children Hospital Madinah a 31 years old Saudi lady Gravida 5 Para 2 + 2 presented to emergency room (ER) with lower abdominal pain for 2 days, nausea and dizziness for 1 day. Her last menstrual period started in 22/10/1435 and she is pregnant 8 weeks. Pain started two days ago in right lower abdomen sever with acute onset, progressive in course colicky in nature, radiating to the back, aggravated by effort not relieved by analgesics associated with nausea and dizziness one day after. Patient has no vaginal bleeding, no vaginal discharge, no vomiting no constipation no diarrhoea no urinary
symptoms, she went to private hospital and had abdominal ultrasound showed right adnexal mass. In our ER investigation taken ultrasound showed; Anteverted empty uterus, endometrial thickness 1.8 cm and no obvious intrauterine pregnancy, left ovary normal, right adnexal ill-defined complex mass measuring 4.7 cm X 4.2cm X 3.6 cm with positive colour Doppler flow, right ovary cannot be seen, with minimal to moderate amount of free fluid and debris seen in pouch of Douglas (POD). Her Beta HCG result came 4000 International unit (IU).

Patient diagnosed as right ectopic pregnancy. Laparotomy done intraoperatively right chronic ectopic pregnancy with clotting blood seen and Salpingectomy done. Moderate bowel adhesions dissected and right ovary removed. Left ovary polycystic and left tubal mass 2 X 3 cm seen at coronal end and left tubal salpingectomy done. Patient stayed in hospital for 3 days post-operative and recovered well.

Histopathology report of the samples showed; right fallopian tube content of degenerated decidual tissue and left fallopian tube mass with ectopic tubal pregnancy (Figure 1 and Figure 2).

Discussion

When an ectopic pregnancy in the fallopian tube is treated conservatively, there is a roughly 10 fold increase in ectopic pregnancy [15, 16]. Post conservative management of ectopic pregnancy adhesions develops in the pelvic area and in turn, presence of pelvic adhesions increase the rate of ectopic pregnancy [17, 18]. In our featured case, intra-operatively there was a chronic right tubal pregnancy and adhesions seen which may explain the occurrence of left ectopic pregnancy.

Complications of ectopic pregnancy can be secondary to misdiagnosis, late diagnosis, or treatment approach. Failure to make the prompt and correct diagnosis of ectopic pregnancy can result in tubal or uterine rupture (depending on the location of the pregnancy), which in turn can lead to massive hemorrhage, shock, disseminated intravascular coagulopathy (DIC), and death. Ectopic pregnancy is the leading cause of maternal death in the first trimester, accounting for 9-13% of all pregnancy-related deaths. In the United States, an estimated 30-40 woman dies each year from ectopic pregnancy. Any time a surgical approach is chosen as the treatment of choice, consider the complications attributable to the surgery, whether it is laparotomy or laparoscopy [19].

Bilateral tubal pregnancy is an extremely rare and unusual occurrence. The estimated incidence is 1 in 725 to 1 in 1580 of all ectopic pregnancies [1, 7, 8], corresponding to one per 200,000 live births [9, 10]. Totally, more than 200 cases of bilateral tubal ectopic pregnancy have been reported in the literature to date [8]. They are usually diagnosed intra operatively [1, 11]. Martinez made an unusual case report of early diagnosis by ultrasonography of a bilateral tubal ectopic pregnancy in 2009 [14]. Our case was diagnosed intra-operative.

The principle management in case of ectopic pregnancy has become a conservative approach that attempts to save the tube, rather than salpingectomy. However, it is important to remember that hemorrhage from ectopic pregnancy is still the leading cause of pregnancy related maternal death in the first trimester and accounts for 4 to 10 percent of all pregnancy related deaths, despite improved diagnostic methods leading to earlier detection and treatment [20, 21]. Despite the risk of persistent ectopic pregnancy, some studies have shown salpingostomy to improve reproductive outcome in patients with contra-lateral tubal damage. Yao and Tulandi concluded from a literature review that laparoscopic salpingostomy had a reproductive performance that was equal to or slightly better than salpingectomy; however, slightly higher recurrent ectopic pregnancy rates were noted in the salpingostomy group [22]. However, if the treating surgeon has neither the laparoscopic skill nor the instrumentation necessary toatraumatically remove the trophoblastic tissue via linear salpingostomy, then salpingectomy by laparoscopy or laparotomy is not the wrong surgical choice [23]. We perform right salpingectomy and left oophorectomy in our featured case because of the uncontrolled bleeding from the implantation site with severely damaged tube and ovary and large tubal pregnancy. Added to that the presence of adhesions.

Salpingostomy is used to remove a small pregnancy located in the distal third of the fallopian tube [24]. In our presented case right salpingostomy was done because ectopic pregnancy in this tube was small in size, the tube is intact and to preserve fertility. Parker and Bistis concluded that when the contra-lateral fallopian tube is normal, the subsequent fertility rate is independent of the type of surgery [25].Similarly, a prospective study of 88 patients by Ory et al indicated that the surgical method had no effect on subsequent fertility in women with an intact contra-lateral tube [26]. Several other studies reported that the status of the contra-lateral tube, the presence of adhesions, and the presence of other risk factors, such as endometriosis, have a more significant impact on future fertility than
does the choice of surgical procedure [23].

According to Rulin, salpingectomy should be the treatment of choice in women with intact contra-lateral tubes, because conservative treatment provides no additional benefit and incurs the additional costs and morbidity associated with persistent ectopic pregnancy and recurrent ectopic pregnancy in the already damaged tube [27]. Future fertility rates have been found to be similar in patients who are treated surgically by laparoscopy or laparotomy. Salpingectomy by laparotomy carries a subsequent intrauterine pregnancy rate of 25-70%, compared with laparoscopic salpingectomy rates of 50-60%. Very similar rates exist for laparoscopic salpingostomy versus laparotomy. The rate of persistent ectopic pregnancy between the 2 groups is also similar, ranging from 5-20%. A slightly higher recurrent ectopic pregnancy rate exists in patients treated by laparotomy (7-28%), regardless of conservative or radical approach, when compared with laparoscopy (6-16%). This surprising finding is believed to be secondary to increased adhesion formation in the group treated by laparotomy [23].

Clausen results from the retrospective non-comparing materials revealed that there was no significant difference in intrauterine pregnancy rates, i.e. 46% following conservative tubal surgery and 44% after radical surgery. The repeat ectopic pregnancy rate was 10% following conservative surgery and 15% after radical surgery [28].

The cumulative intrauterine pregnancy rate was significantly higher after salpingostomy (88%) than after salpingectomy (66%) (log rank P < 0.05) after correction for confounding factors. No difference was found in the recurrence rate of ectopic pregnancy between the treatments (16% vs 17%). In patients with contra-lateral tubal pathology, the chance of pregnancy was poor (hazard ratio 0.463) and the risk of recurrence was high (hazard ratio 2.25), assessed with Cox regression. The rate of persistent ectopic pregnancy was 8% [29].

In the United States, ectopic pregnancy is estimated to occur in 1-2% of all pregnancies and accounts for 3-4% of all pregnancy-related deaths [30]. It is the leading cause of pregnancy-related mortality during the first trimester in the United States. In a review of deaths from ectopic pregnancy in Michigan, 44% of the women who died were either found dead at home or were dead on arrival at the emergency department [31].

Conclusions

Bilateral tubal pregnancy in the absence of preceding induction of ovulation is the rarest form of ectopic pregnancy. It corresponds to an occurrence of one per 200,000 live births. The diagnosed of bilateral tubal pregnancy is usually made intra-operatively. This demonstrates the importance of identifying and closely examining both tubes at the time of surgery.

The principle management is the conservative approach that attempts to save the tube, rather than salpingectomy. In the other hand, it is important to remember that hemorrhage from ectopic pregnancy is the leading cause of maternal death and accounts for 4 to 10 percent of all pregnancy related deaths. Salpingectomy should be the treatment of choice in women bleeding internally with intact contra-lateral tubes, because conservative treatment provides no additional benefit and associated with morbidity in case of persistent ectopic pregnancy and recurrent ectopic pregnancy in the already damaged tube. Alternatively, salpingostomy is used to remove a small intact pregnancy located in the distal third of the fallopian tube.

The repeat ectopic pregnancy rate is 10% following conservative surgery and 15% after radical surgery.

References


