



A Clinical Dilemma of Bilateral Hematosalpinx in Ectopic Pregnancy: Case Report

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Abstract

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Background : Blastocyst implantation outside the uterine cavity leads to ectopic pregnancy. About 96% of ectopic pregnancies occur in the fallopian tubes, where it most frequently occurs; the fimbrial end accounts for 11% of all ectopic pregnancies. There was an uncommon type of ectopic pregnancy called bilateral tubal ectopic pregnancy. Bilateral tubal ectopic pregnancy is estimated to affect 1 out of 725 – 1580 ectopic pregnancies or 1 out of 200,000 live births. However, the villi quickly penetrate the endosalpinx once the implantation of the ectopic pregnancy has occurred before reaching the tubal wall and peritoneum. Vascular growth and a peritubal hematoma or hematosalpinx, which frequently involves the contralateral tubal section, are also present with this penetration. The purpose of this article is to report on the dilemmas that often occur in the case of bilateral hematosalpinx in ectopic pregnancy.

Case Description : In this report, we discuss a 33-year-old woman with a positive pregnancy test and transvaginal ultrasound result that was suggestive of ectopic pregnancy in a stable hemodynamic state. The patient underwent an exploratory laparotomy, which showed bilateral hematosalpinx with right ectopic pregnancy with damaged fimbria. The left fallopian tube had a blue-purple bulge that suggested hematosalpinx secondary to ectopic pregnancy rather than bilateral ectopic pregnancy condition. The decision for definitive management was made, right salpingectomy puncture and drainage of the hematosalpinx were performed without complication. The final diagnosis was confirmed on pathology examination that showing chorionic villi within the right damaged fimbria, focal decidua, a few trophoblast-like cells that indicated ectopic pregnancy in the left tubal cavity.

Conclusion : This approach encourages both shared decision-making and preparedness, both of which are required to provide patient-centered and comprehensive caremanagement such as bilateral hematosalpinx in ectopic pregnancy case, that must always be individualized, and patient's desire for future conception must be taken into account.

Keywords : ectopic pregnancy, hematosalpinx, clinical dilemma, fallopian tube

INTRODUCTION

Ectopic pregnancy is a medical emergency that occurs when a fertilized egg implants outside the uterus, usually in the fallopian tube. It is a life-threatening condition that accounts for 6–16% of women who present to the emergency room. Ectopic pregnancy is a rare complication, affecting only 2% of all pregnancies, but it is responsible for about 4% of all pregnancy-related deaths. The fallopian tubes are the most common site of ectopic pregnancy, accounting for 96% of cases occurring in these tubes. The fimbrial end of the fallopian tube, which is the closest part to the ovary, is the most frequent site of ectopic implantation, accounting for 11% of all ectopic pregnancies. If left untreated, ectopic pregnancy can cause life-threatening complications such as internal bleeding and shock. Therefore, early diagnosis and prompt management are crucial to prevent serious complications.^{1,2} Bilateral tubal ectopic pregnancy (BTP) is a type of ectopic pregnancy that occurs when both fallopian tubes are affected. It is considered a rare condition, estimated to affect only about 1 out of 725 – 1580 ectopic pregnancies or 1 out of 200,000 live births. In a BTP, the fertilized egg implants itself in one of the fallopian tubes, and then another egg implants itself in the other fallopian tube. This condition is dangerous and requires immediate medical attention, as it can lead to severe complications such as hemorrhage, shock, and even death. Early diagnosis and treatment are essential for the best possible outcome, and women who experience symptoms such as abdominal pain, vaginal bleeding, and shoulder pain should seek immediate medical attention to rule out the possibility of BTP.³ Most cases of bilateral tubal ectopic pregnancy are only discovered during surgery, and they are clinically indistinguishable from unilateral tubal ectopic pregnancy. There is currently no management policy that is supported by evidence.^{3–6} The purpose of this article is

to report dilemmas that often occur in the case of bilateral hematosalpinx in ectopic pregnancy.

CASE REPORT

A 33-year-old woman from a level 3 hospital was admitted to the emergency room for chief complaint of missing lower abdominal pain, brownish-red vaginal bleeding, and being late for menstruation. G4P3A0H2's obstetric history includes 10 years of normal childbirth and secondary infertility. The patient has been complaining of intermittent yellowish discharge with a slight smell over the past five years, along with less low back pain. All examination data and published data have received consent from the patient (without mentioning real identity).

The patient appeared moderately ill, with normal vital signs. The pregnancy test showed a positive reading without providing any quantitative data. An ultrasound examination revealed a suspicion of an ectopic pregnancy, as the image of the uterine cavity appears inhomogeneous, suspected *pseudosac*, and the posterior part of the uterus appeared hyperechoic, suspected hemocele. blood tests were within normal limits, but because of the absence of laparoscopic facilities, informed consent was seek for diagnostic exploration laparotomy as a diagnosis of ectopic pregnancy, with differential diagnosis of pregnancy of unknown location.

Preparation for surgery was carried out by administering medications for stabilizing and maintaining the patient's hemodynamics. During the exploratory laparotomy, which is a surgical procedure to examine the abdominal organs, it was discovered that there was approximately 100 ml of of blood in the peritoneal cavity, specifically in the pouch of douglas, located in the lower part of the pelvis. Additionally, there was blood in both fallopian tubes as shown in [Figure 1](#). There was suspicion of an ectopic pregnancy, with

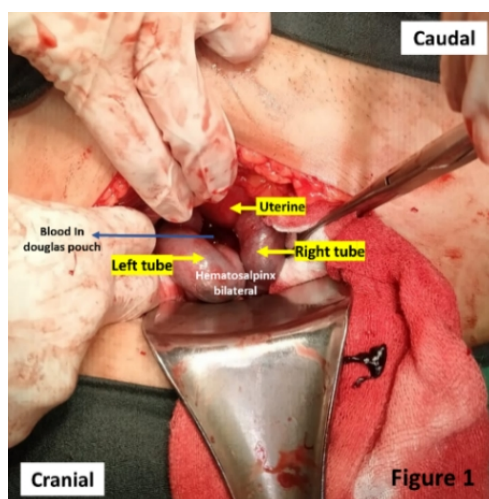


Figure 1. Hematosalpinx in both tubes

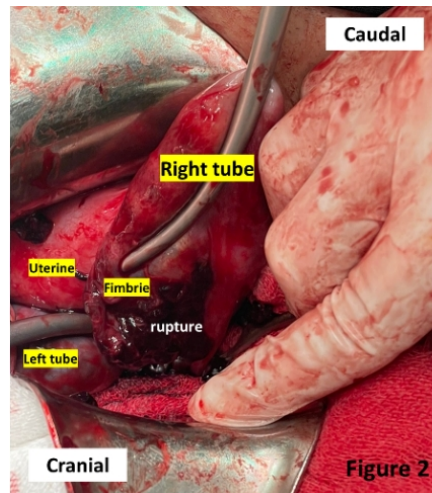


Figure 2. Rupture of the right pars fimbriae fallopian tube

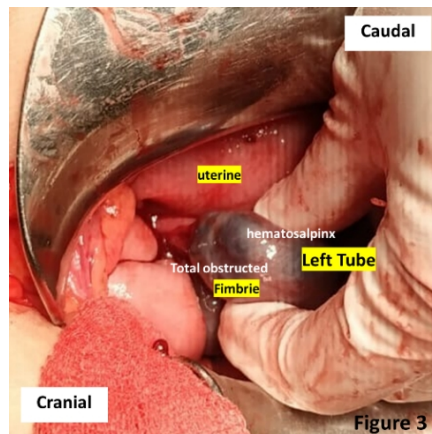


Figure 3. Rupture of the right pars fimbriae fallopian tube

rupture of the right pars fimbriae fallopian tube, as shown in [Figure 2](#). Therefore, it was decided to perform a dextral salpingectomy, which is the surgical removal of the affected fallopian tube. After undergoing the necessary procedure, a subsequent ultrasound examination was conducted to assess the progress.

The results showed that there was no free fluid present in the pelvic cavity, indicating that the procedure was successful. Further examination of the patient's histopathological findings revealed the presence of bilateral ectopic pregnancy, which is a rare type of pregnancy where the fertilized egg implants outside of the uterus, typically in the fallopian tubes. Additionally, the histopathological findings also showed the presence of focal decidua, which is a type of tissue lining that develops in the uterus during pregnancy. This detailed assessment provides crucial insights into the patient's condition, allowing for better treatment and management.

After the surgical procedure, patients receive postoperative care for 48 hours, both within and outside the hospital. During this time, the healthcare professionals kept a close monitoring on the patient's condition to ensure that they are recovering well. Following this, a follow-up ultrasound was conducted to examine pelvic cavity for any sign of free fluid. The results of the ultrasound showed that no free fluid presents in the pelvic cavity, indicating that the patient is healing well. The patient's histopathological findings revealed bilateral ectopic pregnancy. The left fallopian cavity shows showed focal decidua and trophoblast-like cells, which are indicative of ectopic pregnancy. On the other hand, the right damaged fimbrialpresented chorionic villi, which is another sign of ectopic pregnancy. This detailed information about the patient's condition is essential for the healthcare professionals to provide appropriate treatment and care to the patient.

DISCUSSION

Ectopic pregnancies is a potentially life-threatening condition that occurs when a fertilized egg implants itself outside of the uterus, often present with ipsilateral hematosalpinx, which refers to the presence of blood in the fallopian tube on the same side as the affected ovary. However, the association between ectopic pregnancies and contralateral hematosalpinx, which occurs when blood is found in the fallopian tube on the opposite side, is uncommon and typically relates to assisted reproduction methods. Peritubal hematomas or hematosalpinx, which refer to the accumulation of blood in the fallopian tube, may result from the penetration of the villi into the blood vessels and the resulting vascular proliferation. Villi are finger-like projections that grow from the surface of the early placenta and are responsible for the exchange of nutrients and waste products between the mother and the developing embryo. It grows into the blood vessels, they can cause bleeding, and the resulting blood may accumulate in the fallopian tube as a hematoma or hematosalpinx. This phenomenon has been well-documented in numerous medical studies.³⁻⁴

When a pregnancy occurs outside the uterus, it is called an ectopic pregnancy. In cases of chronic ectopic pregnancies, where the pregnancy has not been naturally aborted or surgically removed, the presence of hematosalpinx can be observed. Hematosalpinx refers to bleeding that occurs inside the fallopian tube. If bleeding occurs in the uterine tubes, despite no rupture or abortive phase, it is an indication that the pregnancy is ectopic. In such cases, the fertilized egg has implanted outside the uterus, which can lead to dangerous complications if left untreated. In situations where there is a hematocele in the pelvic cavity, which is a collection of blood within the pelvic region, secondary hematosalpinx can occur. This happens when the bleeding accumulates inside the fallopian tube itself, forming hematosalpinx without communicating with the peritoneal cavity. Therefore, the presence of hematosalpinx can be a significant indicator of an ectopic pregnancy, and timely medical intervention is crucial to avoid potentially life-threatening complications.⁴⁻⁶

Following a dextra salpingectomy, the palpation of the right tube is considered a potential rupture in the pars fimbria tuba. Aspiration was conducted, which revealed blood-filled fluid that raised the possibility of hematosalpinx. Similarly, palpation of the left tubal uncovered a liquid without any solid component. It is worth noting that a dextra salpingectomy is a surgical procedure that involves the removal of a fallopian tube. Any discomfort or pressure felt in the area after the operation should be viewed with suspicion, as there is a risk of developing a rupture in the pars fimbria tuba. The aspiration procedure involves the removal of fluid from the fallopian tube. The presence of blood-filled fluid in

this case raises the possibility of hematosalpinx, a medical condition characterized by the accumulation of blood in the fallopian tube. The presence of a liquid within the left fallopian tube is of particular concern. Liquids within the fallopian tube can interfere with fertility and increase the risk of ectopic pregnancy if they grow large enough to obstruct the passage of a fertilized egg.⁴⁻⁶ Bilateral hematosalpinx-complicated tubal ectopic pregnancy is uncommon and can present a treatment dilemma. To avoid inappropriate treatment, such as the removal of the contralateral tube, careful preoperative and intraoperative evaluation is required. The possibility of bilateral ectopic pregnancy ought to be ruled out simultaneously. Despite this, it might be misleading. In this instance, the scan does not assess the left-side ectopic pregnancy and instead shows the exact ectopic pregnancy, which is actually hematosalpinx.⁵⁻⁷ Pathologies that indicated focal decidua and some trophoblast-like cells indicating ectopic pregnancy in the left fallopian cavity and chorionic villi in the right damaged fimbrial confirmed the final diagnosis.

Bilateral tubal ectopic pregnancy is a rare form of ectopic pregnancy, and it is regarded as the rarest form when there has been no prior use of ART, as in this instance.^{5,6} There is no difference between unilateral and bilateral tubal ectopic pregnancy in terms of the clinical presentation. The majority of ectopic pregnancies do not progress beyond this point, and the evaluation of the contralateral tubes does not guarantee that bilateral tubal ectopic pregnancy will be correctly identified. Instead of being accurately diagnosed prior to surgery, bilateral tubal ectopic pregnancy is frequently diagnosed during surgery.⁵⁻⁷

More than 200 cases have been reported in the literature, but only three of them were diagnosed with bilateral tubal ectopic pregnancy prior to surgery using ultrasound. There is insufficient data to suggest that additional imaging modalities should be used to diagnose Bilateral tubal ectopic pregnancy.^{3,6} In the context of investigating adnexa and providing preoperative counseling, it is imperative to consider the possibility of bilateral tubal ectopic pregnancy, particularly among patients who express a desire to conceive in the future. This medical condition arises when the fertilized egg implants outside the uterine cavity, usually within the fallopian tubes.⁷⁻⁹ As such, it is essential to manage such cases with a high degree of caution and diligence, given the potential implications for future fertility.⁸⁻¹⁴ Thus, it is incumbent upon healthcare providers to undertake a comprehensive and meticulous examination of the patient's medical history, as well as to conduct a thorough physical and diagnostic evaluation. By doing so, they can establish a clear and accurate diagnosis and develop an appropriate course of treatment, taking into account the patient's individual needs and circumstances.¹⁵⁻¹⁷ In summary, when dealing

with patients who are either experiencing symptoms of adnexal disease or who are seeking guidance on future fertility, healthcare providers must be mindful of the potential for bilateral tubal ectopic pregnancy. By adopting a methodical and informed approach to diagnosis and treatment, they can help ensure the best possible outcomes for their patients.¹⁸⁻²¹

CONCLUSION

A clinical problem arises when ectopic pregnancy and hematosalpinx occur simultaneously. To address this issue and lessen the likelihood of a delayed or missed diagnosis. The ideal treatment plan for bilateral tubal ectopic pregnancy would be one based on evidence; However, due to the low incidence of bilateral tubal ectopic pregnancy and the poor presurgical diagnosis, such a protocol must be adapted to each individual case from published case reports. In order to provide comprehensive and patient-centered care, this strategy encourages preparedness and shared decision-making. Lastly, a thorough preoperative examination of the bilateral adnexa and an intraoperative pelvic examination may reduce the likelihood of a persistent ectopic pregnancy and its complications.

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