International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Thomas A et al. Int J Reprod Contracept Obstet Gynecol. 2024 Dec;13(12):3727-3729
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20243427

Case Report

Report of a rare case of ovarian ectopic pregnancy following ipsilateral salpingectomy and review of literature

Anuja Thomas*, Aisling Thompson, Patrick Mcilwaine

Department of Obstetrics and Gynaecology, South West Acute Hospital, Enniskillen, United Kingdom

Received: 19 October 2024
Revised: 05 November 2024
Accepted: 06 November 2024

***Correspondence:**
Dr. Anuja Thomas,
E-mail: dranujathomaz@gmail.com

ABSTRACT

This is the case report of an ovarian ectopic pregnancy in a lady who had undergone ipsilateral salpingectomy previously. A 35-year-old lady, P1+1, was admitted with lower abdominal pain at 6 weeks of gestation. She had a caesarean section in her first pregnancy followed by a left sided tubal ectopic pregnancy managed by laparoscopic left salpingectomy. Transvaginal scan showed a mass in the left adnexa. Laparoscopy revealed a suspected ovarian ectopic pregnancy which was removed. The diagnosis was confirmed by histopathological examination. Ectopic pregnancy occurs in 1-2% of all pregnancies and is an important cause of maternal morbidity and mortality. Recurrence of ectopic pregnancies are rare, ranging from 6-28%. Ovarian ectopic pregnancy following ipsilateral salpingectomy is a rare occurrence. Timely diagnosis and management are vital for preventing morbidity and mortality.

Keywords: Ovarian ectopic pregnancy, Ipsilateral salpingectomy, Laparoscopy

INTRODUCTION

Ectopic pregnancy occurs in 1-2% of all pregnancies and is an important cause of maternal morbidity and mortality.[1] The incidence of ectopic pregnancy in the United Kingdom (UK) is around 11 in 1000 pregnancies, with a diagnosis of approximately 12,000 cases each year. It has been estimated that the incidence of ectopic pregnancy in women attending early pregnancy units is 2–3%.[2] We report here one of the rare complications in early pregnancy, an ovarian ectopic pregnancy in a lady who had undergone ipsilateral salpingectomy previously.

CASE REPORT

A 35-year-old lady, P1+1, was admitted with lower abdominal pain at 6 weeks of gestation. She had a caesarean section in her first pregnancy followed by laparoscopic left salpingectomy for a left sided tubal ectopic pregnancy. She was clinically stable at her current admission. The beta human chorionic gonadotropin (hCG) level was 1669 mIU/ml. Transvaginal scan revealed a mass in the left adnexa (Figure 1) with large amount of free fluid in the peritoneal cavity. The differential diagnosis was ovarian ectopic pregnancy/partially ruptured corpus luteal cyst. Laparoscopy revealed a suspected ectopic mass extending from the left ovary, with bleeding (Figure 2). The left tube was absent (post salpingectomy).

The right ovary and tube were normal. There was around 200ml of fluid blood and clots in the pelvis. The mass in the left ovary was removed and sent for histopathological confirmation. Diathermy and suturing of left ovary was done to attain haemostasis. The lady recovered and was discharged the next day. Beta hCG levels repeated 48 hours later was reported as 285 mIU/ml. A week later, beta hCG was repeated and was reported as 20 mIU/ml. Histopathology confirmed the diagnosis of ovarian ectopic pregnancy.

Figure 1: Ultrasound image showing ectopic mass.

Figure 2: Laparoscopic image of the ovarian ectopic pregnancy.

DISCUSSION

Ectopic pregnancy in the ovary is a relatively rare condition, accounting for 0.5-3.5% of all the ectopic pregnancies and 0.03-0.09% of all the pregnancies.[3] 82 case reports of ovarian ectopic pregnancies (OEP) were identified over a period of 11 years from 2011 to 2022.[4] Ectopic pregnancy recurrences are rare, ranging from 6-28%.[5] Recurrence of ectopic pregnancy on the same side following a salpingectomy are still rarer with a handful of cases reported over the last 10 years, ipsilateral ovarian ectopic pregnancy being even rarer.[6,7] The exact pathophysiology is yet not sufficiently known.[8-10] Literature suggests various theories for the same.[11] One possibility is that the spermatozoa migrate through the patent tube to reach the pouch of Douglas, and travel further to fertilize the ovum on the other side. A second theory states that the fertilized ovum on the side of the normal tube undergo transperitoneal migration to implant on the tubal stump on the other side. There is also a suggestion that the tubal lumen may remain patent and communicating even after ligation, allowing migration of the fertilised ovum or spermatozoa to the remnant of the fallopian tube. The various risk factors associated with ectopic pregnancy include previous ectopic pregnancy, history of pelvic inflammatory disease, previous pelvic surgery, history of infertility, assisted reproduction techniques, especially in vitro fertilization, cigarette smoking, having multiple sexual partners, and use of intrauterine contraceptive device.[2,12] However, NICE guidelines state that about one third of women with an ectopic pregnancy do not have an identifiable risk factor.[13] In the present study, previous ectopic pregnancy and pelvic surgeries were the risk factors. Clinically, women with ovarian ectopic pregnancy present similar to a tubal ectopic pregnancy, with the classical symptoms of amenorrhoea, abdominal pain and vaginal bleeding.[14] However, they are highly likely to develop intraperitoneal haemorrhage and hemodynamic instability due to the vascularity of the ovarian tissue.[15] It is difficult to distinguish a primary OEP from a secondary OEP where a tubal ectopic pregnancy subsequently implants into the ovary.[14] Tubal ectopic pregnancy and OEP present as adnexal mass and hence differentiation between the two on ultrasound can be challenging. The following diagnostic criteria have been recommended for the diagnosis of OEP by ultrasound: the presence of a wide echogenic ring with an internal echo lucent area on the surface of the ovary; the presence of an ovarian cortex, around the mass (including a corpus luteum or follicles); and the ring being more echogenic than the ovary.[16,17] OEP has a characteristic negative sliding sign, where the ectopic mass is inseparable from the ipsilateral ovary. However, some tubal pregnancies can get fixed to the ovary by pelvic adhesions, and hence this finding is not considered specific.[18] The periphery of an OEP and the corpus luteum can display the ring of fire sign with the use of color Doppler.[17,18] Hence this is an unreliable method to distinguish between the two. In 1878, Von Spiegelberg proposed the following criteria for the diagnosis of primary ovarian pregnancy: intact fallopian tube on the affected side, gestational sac occupying the position of the ovary, the ovary connected to the uterus by the ovarian ligament, and definite ovarian tissue identified in the walls of the sac.[19] These criteria are still referred to in recent literature. However, its value is limited in the modern clinical practise with advances in laparoscopic surgery and the availability of histopathological studies.[14] Surgical management is the treatment of choice for an OEP.[14,18,20] Laparoscopy is considered to be the gold standard. Surgical removal of the ectopic mass preserving the ovary is the ideal management. Complete resolution should be ensured by serial beta hCG measurement. Hemodynamically unstable patients would need laparotomy. Oophorectomy is reserved as the last resort if the bleeding is uncontrollable.

CONCLUSION

Ovarian ectopic pregnancy following ipsilateral salpingectomy is a rare occurrence. Given the risk of hemoperitoneum and hemodynamic instability, high index of suspicion and early diagnosis is essential. Prompt surgical intervention by skilled surgical team ensures reduction in maternal morbidity.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Madhra M, Otify M, Horne A.W. Ectopic pregnancy. Obstet Gynaecol Reprod Med. 2017;27(8):245-50.
2. Elson CJ, Salim R, Potdar N, Chetty M, Ross JA, Kirk EJ. Diagnosis and management of ectopic pregnancy. BJOG. 2016;123:e15-55.
3. Dooley WM, Chaggar P, De Braud LV, Bottomley C, Jauniaux E, Jurkovic D. Effect of morphological type of extrauterine ectopic pregnancy on accuracy of preoperative ultrasound diagnosis. Ultrasound Obstet Gynecol. 2019;54:538-44.
4. Almahloul Z, Amro B, Nagshabandi Z, Alkiumi I, Hakim Z, Wattiez A, et al. Ovarian Pregnancy: 2 Case Reports and a Systematic Review. J Clin Med. 2023;12(3):1138.
5. Chou SY, Hsu MI, Chow PK, Chiang HK, Su HW, Hsu CS. Recurrent ipsilateral ectopic pregnancy after partial salpingectomy. Taiwan J Obstet Gynecol. 2009;48(4):420-2.
6. Samiei-Sarir B, Diehm C. Recurrent ectopic pregnancy in the tubal remnant after salpingectomy. Case Rep Obstet Gynecol. 2013;2013:753269.
7. Hong S-Y, Kim D-W, Shin J-W, Park W-I, Seo Y-S. Ipsilateral ovarian pregnancy after vaginal salpingectomy: A case report. J Minim Invasive Gynecol. 2009;16(6):S122.
8. Hong SY, Kim DW, Shin JH, Seo YS, Park EJ, Park WI. A case of ovarian pregnancy after ipsilateral partial salpingectomy. J Minim Invasive Gynecol. 2010;17(3):397-8.
9. Comstock C, Huston K, Lee W. The ultrasonographic appearance of ovarian ectopic pregnancies. Obstet Gynecol. 2005;105:42-5.
10. Seshadri S, Shirley P, Jaiganesh T, Uchil D, Jolaoso A. In vitro fertilisation and embryo transfer for bilateral salpingectomies results in a ruptured ovarian ectopic pregnancy due to a tubal stump fistula: a case report and review of the literature. BMJ Case Rep. 2010;2010:bcr09.
11. Zuzarte R, Khong CC. Recurrent ectopic pregnancy following ipsilateral partial salpingectomy. Singapore Med J. 2005;46(9):476-8.
12. Hudson S. Ectopic pregnancy. BMJ. 2010;340:b4929.
13. NICE. Ectopic pregnancy and miscarriage: diagnosis and initial management. 2021. Available at: https://www.nice.org.uk. Accessed on 12 August 2024.
14. Solangon SA, Naftalin J, Jurkovic D. Ovarian ectopic pregnancy: clinical characteristics, ultrasound diagnosis and management. Ultrasound Obstet Gynecol. 2024;63:815-23.
15. Alalade A, Mayers K, Abdulrahman G, Oliver R, Odejinmi F. A twelve year analysis of non-tubal ectopic pregnancies: do the clinical manifestations and risk factor for these rare pregnancies differ from those of tubal pregnancies? Gynecol Surg. 2016;13:103-9.
16. Pascual MA, Hereter L, Graupera B, Tresserra F, Pedrero C, Coroleu B, et al. Ultrasound diagnosis of ovarian ectopic pregnancy after in vitro fertilization with salpingectomy and literature review. J Reprod Biol Endocrinol. 2017;1(1):5-8.
17. Stein MW, Ricci ZJ, Novak L, Roberts JH, Koenigsberg M. Sonographic comparison of the tubal ring of ectopic pregnancy with the corpus luteum. J Ultrasound Med. 2004;23(1):57-62.
18. Kadau JV. Sonographic Detection of Ovarian Ectopic Pregnancy: A Case Study. J Diagnost Med Sonogr. 2016;32(5):299-303.
19. Spiegelberg O. Zur casuistik der ovarialschwangerschaft. Arch Gynak. 1878;13:73-9.
20. Cheng CP, Xinyi L. The diagnostic dilemma in ovarian ectopic pregnancy. J Clin Images Med Case Rep. 2024;5(3):2927.

Cite this article as: Thomas A, Thompson A, Mcilwaine P. Report of a rare case of ovarian ectopic pregnancy following ipsilateral salpingectomy and review of literature. Int J Reprod Contracept Obstet Gynecol 2024;13:3727-9.