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Case Report

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Diagnostic Challenges Associated with Heterotopic Pregnancy – A Case Report

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Abstract

Heterotopic pregnancy, the simultaneous co-existence of an intrauterine and an extrauterine (ectopic) pregnancy is a very rare occurrence. However, it poses great diagnostic and management challenges. We present a 35-year-old P3+1 (3 alive) lady who was referred from a private facility following nine-weeks history of amenorrhea and a one-day history of lower abdominal pain. She had two different ultrasound scans which suspected an ectopic and an intrauterine pregnancy respectively. She subsequently had laparotomy with finding of haemoperitoneum of 2.5litres and a ruptured right ectopic pregnancy around the isthmic region. Heterotopic pregnancy still remains a diagnostic challenge despite the availability of ultrasound. A high index of suspicion is needed for timely diagnosis and subsequent surgical management for a favorable outcome.

Keywords: Heterotopic Pregnancy, Ectopic Pregnancy, Ultrasound

Introduction

Heterotopic pregnancy a rare complication of pregnancy involves the simultaneous occurrence of an intrauterine and an extrauterine pregnancy [1-6]. The incidence with natural conception is about 1:30000, however, it is between 1:100-1:500 following the use of assisted reproductive technology [7-9]. Risk factors are similar to those of tubal pregnancy and includes; pelvic inflammatory disease, intrauterine systems, previous ectopic pregnancy, previous tubal surgeries and use of assisted reproductive technology [10-12]. Common symptoms include abdominal pain, genital bleeding, peritoneal symptoms and shock [9].

Transvaginal ultrasound is key to making a diagnosis of heterotopic pregnancy [5]. However, it continues to have a low sensitivity as the diagnosis could be missed or overlooked leading to delayed diagnosis with serious consequences [5-13].

Surgery plays a great role in the management of heterotopic pregnancy. Removal of the ectopic gestation without jeopardizing the intrauterine gestation is usually the goal. This could be done via minimal access surgery or open salpingectomy. Other management options such as injection of potassium chloride, hyperosmolar glucose or methotrexate into the sac under ultrasound guidance have been mentioned in different literatures [5-14].

This paper represents a case of heterotopic pregnancy with ruptured ectopic gestation following delayed diagnosis who had laparotomy with right salpingectomy and subsequently had an uncomplicated vaginal delivery at term.

Case Presentation

A 35-year-old P3+1 (3 alive) lady who was referred from a private facility following nine-weeks history of amenorrhea, a day history of abdominal pain and a positive pregnancy test. Following increasing abdominal pain, she did a pelvic scan at a diagnostic facility on her own which suspected an adnexa mass (? ectopic gestation) with no intrauterine pregnancy seen. She presented at a private specialist facility where another ultrasound scan revealed an intrauterine pregnancy with no ectopic gestation. On admission at the private facility, she received intravenous fluids and medications however, her condition deteriorated necessitating a referral to our facility for expert management.

On presentation we saw a young woman who was in shock with a shock index of 1.5. Her blood pressure was 80/50mmHg, pulse rate was 120 beats per minute. The abdomen was distended but moved with respiration with generalized abdominal tenderness.

Immediate resuscitation was commenced with intravenous fluid and intranasal oxygen at 6l/min. She was counselled on the need for an urgent laparotomy. Her laboratory investigation revealed a PCV of 16%, serum electrolytes, urea, creatinine and urinalysis were within normal limits. Retroviral screening was nega-

tive. She had 4 units of blood cross matched for her.

She had laparotomy and right salpingectomy under general anesthesia with findings of haemoperitoneum of 2.5 liters, bulky uterus, ruptured right ectopic gestation around the isthmic region with a normal left tube and ovary. Sample was sent for histology. She received 4 units of blood intraoperatively and made significant progress in the immediate post-operative period.

On the 3rd post-operative day, she had a transvaginal scan done which revealed a normal intrauterine pregnancy of about eleven weeks gestation. She was placed on progesterone support alongside her routine drugs. She was discharged on the 5th post-operative day. Histology result confirmed a ruptured ectopic gestation. She had an uneventful antenatal afterwards and had spontaneous vaginal delivery of a live female neonate that weighed 2.5kg at term.

Discussion

Heterotopic pregnancy has continued to pose a diagnostic dilemma with misdiagnosis often leading to increased fetal wastage as well as an increased risk of maternal morbidity and mortality [1]. Despite being a rare entity, incidence is becoming more frequent due to rise in genital tract infection and the wider use of assisted reproductive techniques [1]. Other risk factors for this condition includes previous ectopic pregnancy, use of intrauterine systems and previous pelvic surgeries [10-12]. Though our patient had a natural conception, she had been managed for a genital tract infection in the past. Patient with this condition could be asymptomatic while others could present with serious clinical presentations such as tubal rupture, acute abdomen, hemoperitoneum and shock [15]. These symptoms were found in our patient necessitating an urgent laparotomy.

TVS is one of the most important methods in diagnosis of heterotopic pregnancy however, it has a low sensitivity ranging from 26.3% to 92.4%.9 Hence both the experience of the ultra-sonographer and the resolution of the machine contributes significantly to diagnosis.9 Another significant problem with the use of an ultrasound is the proper differentiation of a corpus luteum or hemorrhagic cyst from an ectopic pregnancy [15]. Our patient had two pelvic scans done at different places which revealed an adnexa mass with no intrauterine pregnancy in one and an intrauterine pregnancy with no evidence of ectopic in another. A TVS would have probably helped with the diagnosis. Subsequent TVS done after laparotomy revealed a viable intrauterine gestation. Further imaging with MRI may be used to provide additional information due to its excellent soft tissue contrast without the use of ionizing radiation.

Treatment for heterotopic pregnancy is aimed at targeting the ectopic pregnancy selectively without harming the intrauterine pregnancy [1]. The approach to management could be by performing a laparoscopy (preferred method) or laparotomy (depending on the clinical condition) and carrying out a salpingectomy (usually done especially if the other tube is normal and with the advent of ART) or salpingotomy the surgical approach has an added advantage of confirming the diagnosis alongside providing a definitive treatment. Salpingectomy is usually more appropriate to perform than a salpingotomy in heterotopic pregnancy as it minimizes risk such as persistent tubal bleeding and persistent trophoblast [15]. Our patient had laparotomy with right salpingectomy for ruptured right ectopic gestation. The uterus was gently handled during the surgery. All these may have contributed to the survival of the intrauterine pregnancy. This outcome was similar to that reported in other case reports in which the intrauterine pregnancy progressed to term with a live delivery after management of the ectopic pregnancy in a heterotopic gestation [1-9]. Some other literature has recorded some success with the use of local injection of potassium chloride, hyperosmolar solution or methotrexate under ultrasound guidance [1].

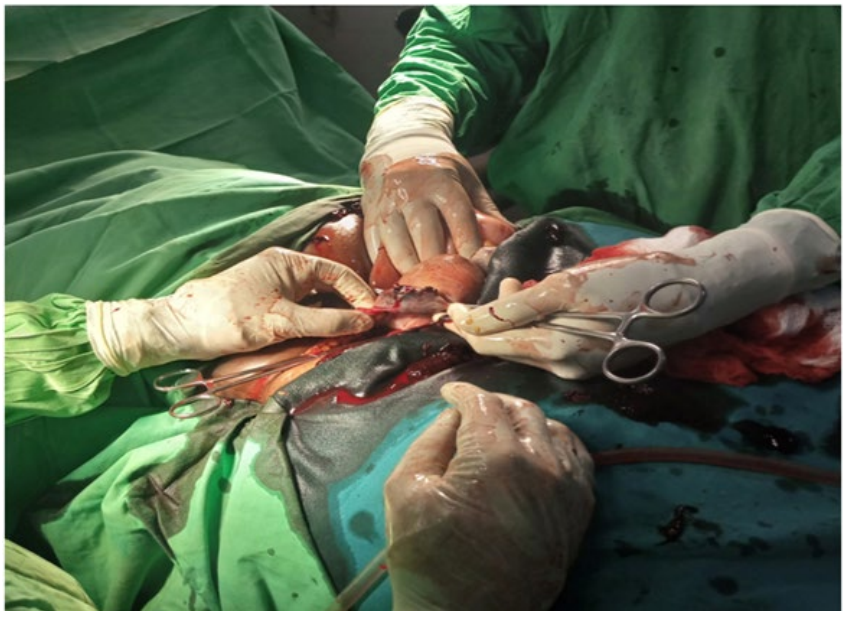

Figure 1: Uterus and Clamped Right Ectopic Gestation

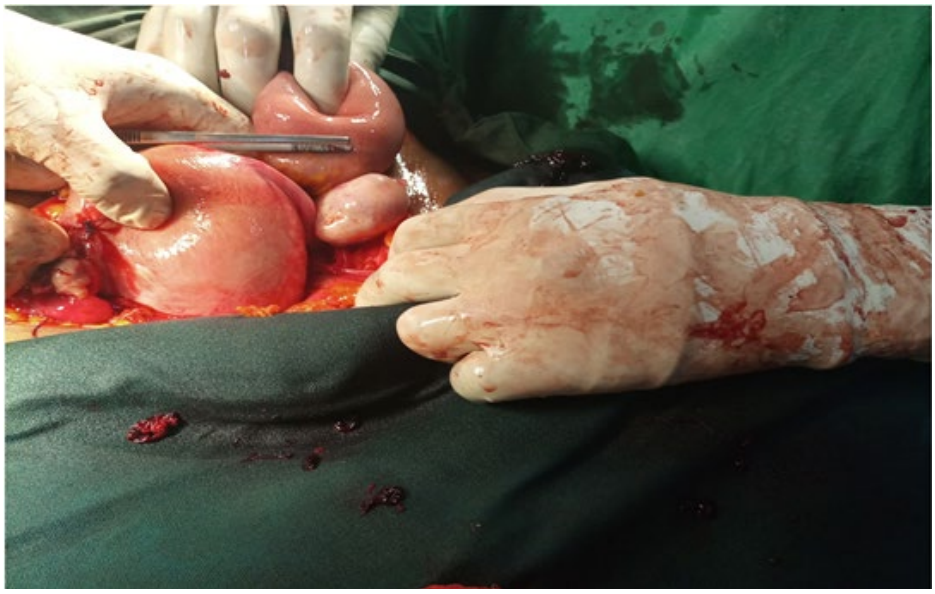

Figure 2: Bulky Uterus with Normal Left Adnexa After Salpingectomy

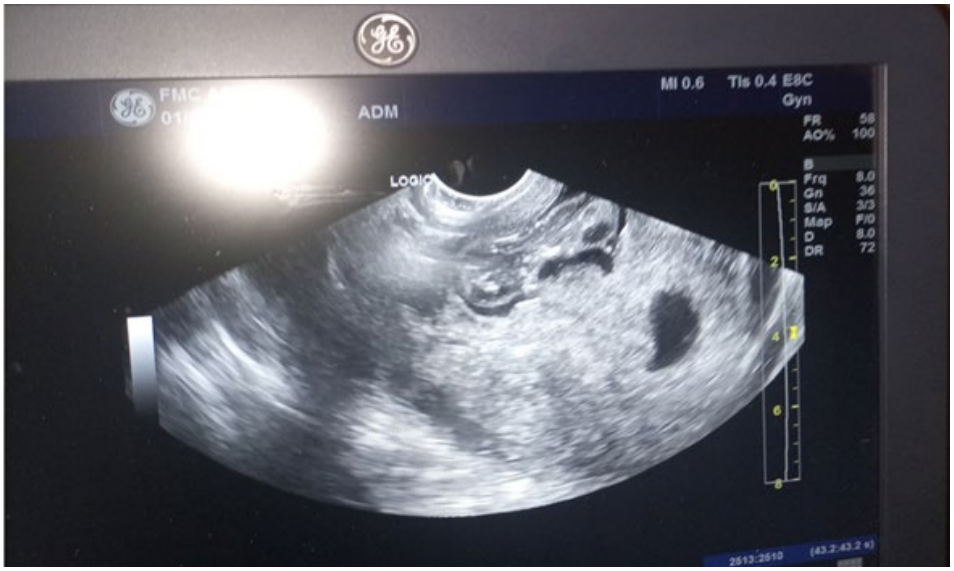

Figure 3: Viable Intrauterine Gestation on TVS After Surgery

Conclusion

Heterotopic pregnancy still poses a diagnostic dilemma in modern day Obstetrics and gynecology practice. Clinicians must be alert to the fact that confirmation of an intrauterine pregnancy clinically or via ultrasound does not exclude the coexistence of an ectopic pregnancy. A high index of suspicion is thus required for timely diagnosis and prompt management with laparotomy or laparoscopy for a favorable outcome.

Abbreviations

PCV: Packed Cell Volume, TVS: Transvaginal Scan, ART: Assisted Reproductive Technology, MRI: Magnetic Resonance Imaging.

Ethical Approval

Ethical approval was obtained from the ethics committee of the Federal Medical Centre, Asaba.

Competing Interests

The authors declare no competing interest.

Acknowledgement

The patient whose story is told in this case report gave her written consent for publication of this report and accompanying images on the premise that others who have similar case scenario may get timely assistance as appropriate.

References

1. Onoh, R. C., Ejikeme, B. N., Onwe, A. B., & Asiegbu, O. U. (2018). Ruptured ectopic in heterotopic pregnancy: Management and spontaneous vertex delivery of a live baby at term. Nigerian Journal of Clinical Practice, 21(5), 672-677.
2. Ghulmiyyah, L. M., Eid, J., Nassar, A. H., Mirza, F. G., & Nassif, J. (2014). Recurrent Twin Pregnancy, with the Second a Heterotopic Pregnancy, Following Clomiphene Citrate Stimulation: An Unusu-al Case and a Review of the

Literature.
3. Kratschla-Apochal, A., Nauer, C., & Bolla, D. (2012). Heterotopic pregnancy after natural conception: a case report. Geburtshilfe und Frauenheilkunde, 72(07), 639-642.
4. Mustafa, K. B., Hamid, H. A., Lim, P. S., Razi, Z. R., & Omar, M. H. (2016). Heterotopic triplet pregnancy with bilateral tubal ectopic post-IVF-ICSI of two 12-cell embryos. Taiwanese Journal of Obstetrics and Gynecology, 55(1), 142-144.
5. Chadee, A., Rezai, S., Kirby, C., Chadwick, E., Gottimukkala, S., Hamaoui, A., ... & Henderson, C. E. (2016). Spontaneous heterotopic pregnancy: dual case report and review of literature. Case Reports in Obstetrics and Gynecology, 2016.
6. Ali, T., Tawab, M. A., ElHariri, M. A. G., & Ayad, A. A. (2020). Heterotopic pregnancy: a case report. Egyptian Journal of Radiology and Nuclear Medicine, 51(1), 1-4.
7. Hassani, K. I., Bouazzaoui, A. E., Khatouf, M., & Mazaz, K. (2010). Heterotopic pregnancy: A diagnosis we should suspect more often. J Emerg Trauma Shock, 3(3), 304.
8. Karkee, R., Sharma, A., & Dangal, B. (2019). Heterotopic pregnancy: a challenge in early diagnosis. Journal of Nepal Health Research Council, 17(3), 413-415.
9. Swiniarski M, Sadkowska M, Roman G, Szesko L, Sipak-Szmigiel O. (2020). Heterotopic pregnancy – case report. Wiadomosci Lekarskie. 73(4): 1-3
10. Fatema, N., Al Badi, M. M., Rahman, M., & Elawdy, M. M. (2016). Heterotopic pregnancy with natural conception; a rare event that is still being misdiagnosed: a case report. Clinical Case Reports, 4(3), 272.
11. Nabi, U., Yousaf, A., Ghaffar, F., Sajid, S., & Ahmed, M. M. H. (2019). Heterotopic pregnancy-a diagnostic challenge. Six case reports and literature review. Cureus, 11(11).
12. Ilikannu SO, Dunsin TO, Jombo SE, Agadaga DI, Onyeoji CP, Uwuigbe AO. Abdominal ectopic pregnancy still a diagnostic dilemma: A case report. International Journal of Clinical and Diagnostic Pathology 2021; 4(3): 01-03
13. Li, X. H., Ouyang, Y., & Lu, G. X. (2013). Value of transvaginal sonography in diagnosing heterotopic pregnancy after in-vitro fertilization with embryo transfer. Ultrasound in Obstetrics & Gynecology, 41(5), 563-569.
14. Yu, Y., Xu, W., Xie, Z., Huang, Q., & Li, S. (2014). Management and outcome of 25 heterotopic pregnancies in Zhejiang, China. European Journal of Obstetrics & Gynecology and Reproductive Biology, 180, 157-161.
15. Abdelmonem, A. H., Sayed, G., Abugazia, A. E., Kohla, S., & Youssef, R. (2021). Heterotopic pregnancy after a spontaneous conception a case report with a review of clinical, laboratory and imaging findings. Clinical Case Reports, 9(8), e04649.