CASE REPORT

Heterotopic Pregnancy Following Ovulation Induction By Clomiphene Citrate And A Normally Growing Intrauterine Pregnancy: A Case Report

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ABSTRACT:

A heterotopic pregnancy is defined as the presence of a combined intrauterine and ectopic pregnancy. Heterotopic pregnancy is rare, estimated to occur in 1/30,000 pregnancies. It is also reported to be as high as 1% after the use of assisted reproductive technology. Simultaneous extra and intrauterine pregnancy after the induction of ovulation with clomiphene citrate has been reported. Clomiphene citrate which increases the rate of twining could be associated with a heterotopic pregnancy rate of 1/900, which is much less than using assisted reproductive technology. Heterotopic pregnancies are diagnostic and therapeutic challenges for obstetricians. If they continue without diagnosis, a life- threatening situation may occur even when surgical intervention with laparotomy is performed.

Key words: Heterotopic pregnancy, Ovulation induction, Clomiphene citrate, Laparotomy

INTRODUCTION:

A heterotopic pregnancy is defined as the presence of a combined intrauterine and ectopic pregnancy.[1,2] Heterotopic pregnancy is rare, estimated to occur in 1/30,000 pregnancies.[3,4] It is also reported to be as high as 1% after the use of assisted reproductive technology, but clomiphene citrate which increases the rate of twining, could be associated with a heterotopic pregnancy rate of 1/900, which is much less than using assisted reproductive technology.[5,6] A corneal ectopic pregnancy is one of the most life threatening types of ectopic gestations, which accounts for 2-4% of all the ectopic pregnancies and it has a mortality rate which is 6-7 times higher than that of the ectopic pregnancies in general. Heterotopic pregnancies are diagnostic and therapeutic challenges for obstetricians because findings in patients with heterotopic pregnancy include abdominal pain, adnexal masses, peritoneal irritation etc. which are usually non specific. Moreover the features of an ectopic gestation are often masked by the co-existing intrauterine gestation, If heterotopic pregnancy continues without diagnosis, a life- threatening situation may occur even when surgical intervention such as laparotomy is performed.[7]

CASE REPORT:

A 30-year-old, primigravida presented to gynaecology emergency with history of 9 weeks gestation and severe lower abdominal pain for 1 hour duration along with brief episode of dizziness and palpitation. She had undergone laparotomy due to left ovarian endometrioma 3 months back followed by ovulation induction. She was prescribed clomiphene citrate 50mg from day 2-6 of the cycle and Injection IVF-M 5000 IU on day 9th of cycle. Fertile period was explained to her. With this treatment she conceived in the 3rd cycle. During pregnancy her first obstetric ultrasound was done in 6th week of pregnancy that showed single intrauterine pregnancy. She visited outpatient department of the gynaecology OPD with lower abdominal pain at 8 weeks of gestation. She was hospitalized and kept under observation and conservative treatment was given. Her 2nd ultrasound was done that showed single intrauterine pregnancy of 9 weeks and corpus luteal cyst in left ovary. Rest of the scan was normal. She became stable and was then discharged from the hospital.

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Figure: 1a
Intrauterine pregnancy with left tubal ectopic At 10 weeks gestation

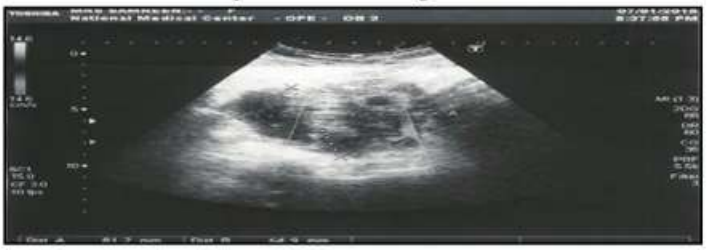


Figure : 1b
Operative findings in emergency laparotomy showing ruptured left tubal pregnancy and an increased globular uterus

Figure: 2a
Viable intrauterine pregnancy on 2nd day of laparotomy at 11 weeks gestation

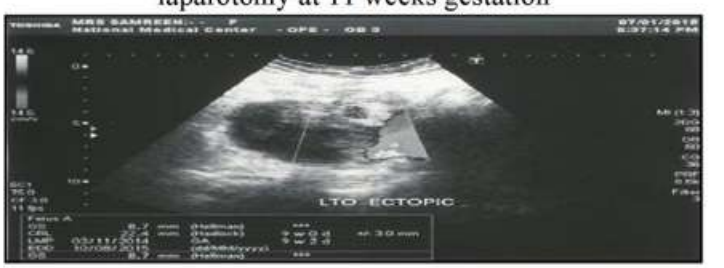
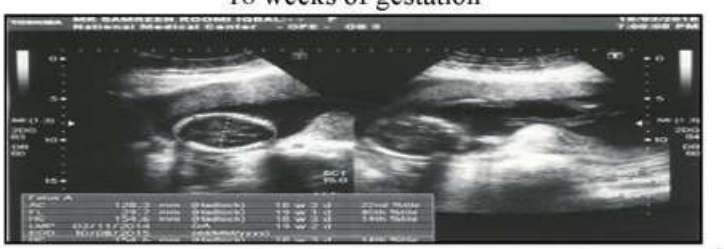


Figure: 2b
Viable intrauterine pregnancy at 18 weeks of gestation



After one week she presented in gynaecology emergency with severe lower abdominal pain and dizziness. On examination she was pale, pulse 102/min, BP 90/60 mm Hg, temp 97F, R/R 18/m, lower abdominal tenderness was positive. Pelvic ultrasound was done for the sake of cause that showed heterotopic pregnancy with small amount of blood in peritoneal cavity (Figure 1). Written informed consent was taken and emergency laparotomy was done. On opening she had right tubal ruptured ectopic pregnancy with about 100ml of blood in peritoneal cavity. (Figure 2) Left tube and ovary was normal. Right sided salpingectomy was then done. After operation she recovered well. On 2nd post-operative day ultrasound was repeated and intrauterine pregnancy was found to be viable. (Figure 3) The diagnosis was confirmed on histology report of salpingectomy specimen. After operation, she had routine antenatal visits and at 18 weeks repeat ultrasound showed a viable intrauterine pregnancy (Figure 4). At the time of case submission the patient is 30 weeks of gestation and her intrauterine pregnancy is growing very well.

DISCUSSION:

Heterotopic pregnancy was first described by Duverney in 1708 at autopsy. However diagnoses in life, is still rare.[8] Now-a- days, the use of assisted reproductive technology and fertility agents such as clomiphene citrate can increase a patient's risk of a heterotopic pregnancy. Indeed, any factor predisposing a patient to an increased risk of ectopic pregnancy could contribute to heterotopic pregnancy. In our patient, pregnancy also occurred in association with ovulation induction by clomiphene citrate.

The majority of heterotopic pregnancy cases are diagnosed late. Even though it is reported that 20-50% of ectopic pregnancies cannot be confirmed by ultrasonography.[3] Significant morbidity and occasional mortality have been reported as a result of a delay in diagnosis. As no single investigation can predict the presence of a heterotopic pregnancy, it should be suspected in any patient who presents with lower abdominal pain in the early phase of an obvious intrauterine pregnancy following fertility treatment[7].Often, abdominal and pelvic ultrasonogram fails to show the ectopic pregnancy or is misinterpreted because of the awareness of an existing intrauterine pregnancy, Moreover, if an adnexal mass is seen, it may be interpreted incorrectly as a corpus luteum cyst but demonstration of an intrauterine pregnancy is no longer a reliable indicator for excluding an ectopic pregnancy.[1,2] In our case, persistent lower abdominal pain at 9 weeks of gestation drew attention to the heterotopic pregnancy. It was later on confirmed on trans-abdominal ultrasound when it got ruptured.

The standard treatment for ectopic pregnancy is surgery by laproscopy or laparotomy depending on condition of the patient.[5,9] The use of medical treatment such as intramuscular administration of methotrexate is limited to cases where the intrauterine pregnancy is not viable.[10,11] Fertility results are found to be same after laproscopy or laparotomy. However, some authors have reported a 40% loss of intrauterine pregnancy following surgical treatment of heterotopic pregnancy.[10] The good outcome as in our case is not always the rule. Timely diagnosis of the ectopic pregnancy component and an emergency laparotomy could be very helpful. As in our case, timely intervention by laparotomy did not affected the intrauterine pregnancy.

CONCLUSION:

This case report suggests that a heterotopic pregnancy must always be considered in patients presenting with pelvic pain even in a confirmed intrauterine pregnancy, particularly after the induction of ovulation by clomiphene citrate or assisted reproductive technology. Every clinician treating women of reproductive age should keep this diagnosis in mind. It also demonstrates that early diagnosis is essential in order to salvage the intrauterine pregnancy and avoid maternal morbidity and mortality.

REFERENCES:

1. Avitabile NC, Kaban NL, Siadecki SD, Lewiss RE, Saul T. Two Cases of Heterotopic Pregnancy Review of the Literature and Sonographic Diagnosis in the Emergency Department. ©2015 by the American Institute of Ultrasound in Medicine J Ultrasound Med 2015; 34:527–30.
2. Umranikar S, Umranikar A, Rafi J, Bawden P, Umranikar S, O'Sullivan B, Moors A. Acute presentation of a heterotopic pregnancy following spontaneous conception: a case report. Cases J. 2009; 2: 936-9.
3. Ghulmiyyah LM, Eid J, Nassar AH, Mirza FG, Nassif J. Recurrent twin pregnancy, with the second heterotopic pregnancy, following clomiphene citrate stimulation: an unusual case and a review of the literature. Surg Technol Int. 2014; 25:195-200.
4. Chen KH, Chen LR. Rupturing heterotopic pregnancy mimicking acute appendicitis. 2014; 53 (3): 401–3.
5. Ljuca D. Heterotopic pregnancy in natural conception – our initial experience: case report. Acta Clin Croat 2011; 50:249-52
6. Fukuda T, Inoue H, Toyama Y, Ichida T, Uzawa Y, Monma M, et al. Bilateral tubal and intrauterine pregnancies diagnosed at laparoscopy., J Obstet Gynaecol Res. 2014; 40(10):2114-7. doi: 10.1111/jog.12458. Epub 2014 Sep 17
7. Naki MM, Tekcan C, Uysal A , Güzin K, Yücel N. Archives of Gynecology and Obstetrics2006; 274 (3): 181-8
8. Honarbakhsh A, Khoori E , Mousavi S. Case report Heterotopic pregnancy following ovulation induction by Clomiphene and a healthy live birth: a case report. Journal of Medical Case Reports 2008, 2:390.
9. Fouedjio JH, Fouelifack FY, Fouogue JT, Sando Z. Ruptured heterotopic pregnancy in a natural conception cycle: a case report at the Yaounde central Hospital (Cameroon). Pan Afr Med J. 2013; 16: 106.
10. Ikechukwu E, Adeleni M. Heterotopic pregnancy with live infant. Ann 2013 Jan-Mar; 12 (1):43-5. doi: 10.4103/1596-3519.108251.
11. Oral S, Akpak YK, Nilay Karaca N, Babacan A, Savan K. Case Report Cornual Heterotopic Pregnancy after Bilateral Salpingectomy and Uterine Septum Resection Resulting in Term Delivery of a Healthy Infant. Case Reports in Obstetrics and Gynecology. Volume 2014 (2014), Article ID 157030, 3 pages.