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Heterotopic Pregnancy- Opportunity within a Catastrophe

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Abstract

Heterotopic pregnancy is a rare clinical condition of coexistence of both intrauterine and extrauterine pregnancies at different sites . It is potentially a life threatening condition occurring only 1 in 30000 spontaneous conception[1] but increased incidence of 1:300 and 1: 500 is because of raising ART and IVF techniques[2]. Extra uterine most commonly in fallopian tube (95-97%), uncommonly in cervix, ovary or abdomen (1-3%)[6]. It can be a life-threatening condition and can be easily missed. Transvaginal ultrasound plays an invaluable tool in diagnosing heterotopic pregnancy but has a very low sensitivity with a sensitivity rate of about 56% at 5 – 6 weeks of gestation[3]. The diagnosis is often missed or miss diagnosed as a corpus luteal cyst or ovarian cyst especially in hyper stimulated ovaries. Early and accurate diagnosis of heterotopic pregnancy is in most cases difficult and in fact it is reported that about 58.93% to 73.75% of cases of heterotopic pregnancy are not confirmed before surgery[5]. This case shows us the relationship of genital tract infections, repeated curettings with increased risk for heterotopic pregnancies even in spontaneous conception. The early diagnosis saves the patient as well as the viable intra uterine life. The late diagnosis is life threatening after the rupture of ectopic with hypovolaemic shock. Even in presence of a known intrauterine pregnancy, the simple dictum 'think ectopic' must not be forgotten. The objective of this study is to report the challenges faced during diagnosis and management of heterotopic pregnancy. In our case the diagnosis of heterotopic pregnancy was accurately made at the early stage with the help of transvaginal ultrasound which allowed the timely diagnosis and management before unfavourable consequences occurred.

Keywords: ART, ectopic,heterotopic pregnancy, laparoscopy, laparotomy, PID, transvaginal ultrasound

Introduction

Heterotopic pregnancy is a rare clinical condition of simultaneous occurrence of both intra uterine and extra uterine pregnancy. It can be a life-threatening condition and can be easily missed. A high index of suspicion is needed to diagnose heterotopic pregnancy.The first description of heterotopic pregnancy was described in 1708 by Duverney in autopsy findings of a patient who died from an ectopic pregnancy[3]. In spontaneous conception the incidence of heterotopic pregnancy is very rare with incidence of 1:30000 pregnancies. Recent publications have revised it to 1:3889 pregnancies[4]. Nowadays due to increased use of ART techniques and IVF pregnancies the incidence of heterotopic pregnancy has risen to 1:100 pregnancies[5,6]. It occurs in about 0.08% of all pregnancies with ART[9,10,11]. It occurs in 1 to 3% of successful IVFs. The early diagnosis of heterotopic pregnancy is highly challenging because of lack of clinical symptoms and

predominating sings of extra uterine pregnancy. The etiology is still a puzzle although studies have shown that PIDs, previous ectopic, previous tubal surgeries, previous pelvic surgeries, pelvic adhesions and ART are high risk for heterotopic pregnancy. However non high risk woman with heterotopic pregnancy remains exotic to the field of obstetrics. Transvaginal ultrasound plays an invaluable tool in diagnosing heterotopic pregnancy. Transvaginal ultrasound is diagnostic but has a very low sensitivity[12]. The goal of management is to remove the ectopic pregnancy without jeopardizing the viable intra uterine gestation[7]. We therefore here reporting a case of heterotopic pregnancy of viable intra uterine gestation of 5 weeks + 5 days with right tubal ectopic managed surgically by laparotomy and complete right salphingectomy.

Case Report:

A case of 32 year , para 1, alive girl child, LCB 3yrs back with 2 miscarriages after LCB presented to our opd with her spouse with a wish to have a second child. A detailed history of her and her husband was taken . She gave a history of 2 miscarriages for which she had 3 D&Cs without any post abortal sepsis. She also gave a history of admission and treated outside with antibiotic course for excessive white discharge per vagina often. She does not have any history of using intra uterine contraceptive devices. Her LMP was on 21/06/21. On general examination she was moderately built and nourished , her general condition was fair without pallor or icterus or pedal oedema. Her systemic examination showed normal cardiovascular and respiratory systems. on examination of her abdomen – P/A soft, SPT Scar +. Local examination and speculum examination revealed healthy vagina, cervix – posterior, uterus – AV, mobile, FF, non tender, with WDPV +. She was advised for tubal patency test with HSG on day 8 of her cycle. On 28/06/21 HSG done. HSG film showed bilateral patent tubes with free spill **(Figure 1)**. Patient reassured and sent home with T.Folic acid 1 tab OD. Advised next review if there is History of amenorrhoea or at next menstrual cycle. Patient arrived at our obstetrics OPD on 28/07/21 with history of 35 days amenorrhoea with positive urine pregnancy test with a gestational age of 5 weeks + 2 days by LMP. It was a spontaneous conception and had no history of ovulation induction. At that time patient had no other complaints and hence sent home with T.Folic acid 1 tab OD and advised next review at 6 weeks of pregnancy with an early pregnancy ultrasound. On 04/08/21 at around 4.30 pm patient presented to emergency casualty with history of abdominal pain more towards right side since 1 day along with bleeding PV since that day morning. Her general condition was good , conscious, oriented, afebrile, without pallor, anicteric and no pedal oedema. Her vitals being stable with mild tachycardia - Temp:98.6˚ F, PR – 110/min, regular, normal volume, BP – 110/70 mmHg in lying posture, SPO2 – 99% In Room Air. On inspection – the abdomen was not full, moved with respiration. On palpation – abdomen was soft, tender more towards right lumbar and right iliac regions. On local inspection – vulva was smeared with altered blood with adnexal tenderness and fullness in per vaginal examination. Life line secured and blood samples sent for routine investigations. Urgent abdomino-pelvic ultrasound was done which revealed a viable intra uterine pregnancy of 5weeks + 5 days gestational age with FHR – 124 bpm, with right adnexal complex cystic lesion of about 2.3 × 1.7 cm with central anechoeic area(0.6cm), with a thin hyperechoeic ring seen. On colour Doppler, peripheral vascularity seen with moderate free fluid in pelvis with internal echoes with hyperechoeic clots - suggestive of haemoperitoneum. Left ovary - enlarged and showed a complex cystic lesion of 5.9 × 5.4 cm with vascularity **(Figure 2)**. The diagnosis of HETEROTOPIC PREGNANCY – RIGHT TUBAL ECTOPIC WITH TUBAL ABORTION WITH IMPENDING RUPTURE WITH COMPLEX CYSTIC LESION LEFT OVARY was made. The diagnosis and mode of treatment explained to the patient and bystanders. Patient counselled. The blood investigation reports arrived and are normal with HB – 13 gm% and normal Haematocrit level. Written and informed consent obtained and proceeded with emergency exploratory laparotomy with complete right salphingectomy. The intra operative findings as follows – dense omental adhesions over peritoneum, bulky uterus of approximately size of 6 weeks gestation, with anterior body of uterus adhered to the bladder, haemoperitoneum of around 250 to 300 ml , around 3 × 3 cm Right Ampullary Ectopic gestation with impending rupture and left ovarian complex cystic lesion – punctured and aspirated clear fluid. Left adnexa and posterior wall of uterus were normal.

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Her intra operative and post operative periods were uneventful. Post operative trans vaginal ultrasound was done and the viability of the intra uterine gestation assured. She had uneventful post operative recovery. She was in admission under our observation for some three days. The specimen **(Figure 3)** sent for histopathological examination and reports confirmed the products of conception from the right tubal ectopic pregnancy. On 24/03/2022, she delivered an alive term baby boy by LSCS

Figure 1 Preconceptional - HSG film showing bilateral patent tubes with free spill

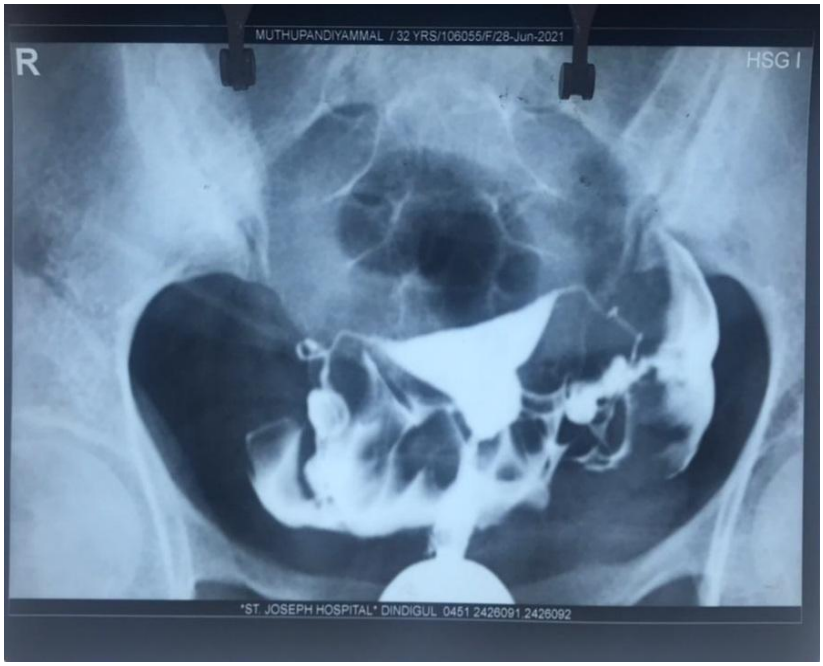

Figure 2 USG showing viable intra uterine pregnancy with right tubal ectopic with tubal abortion

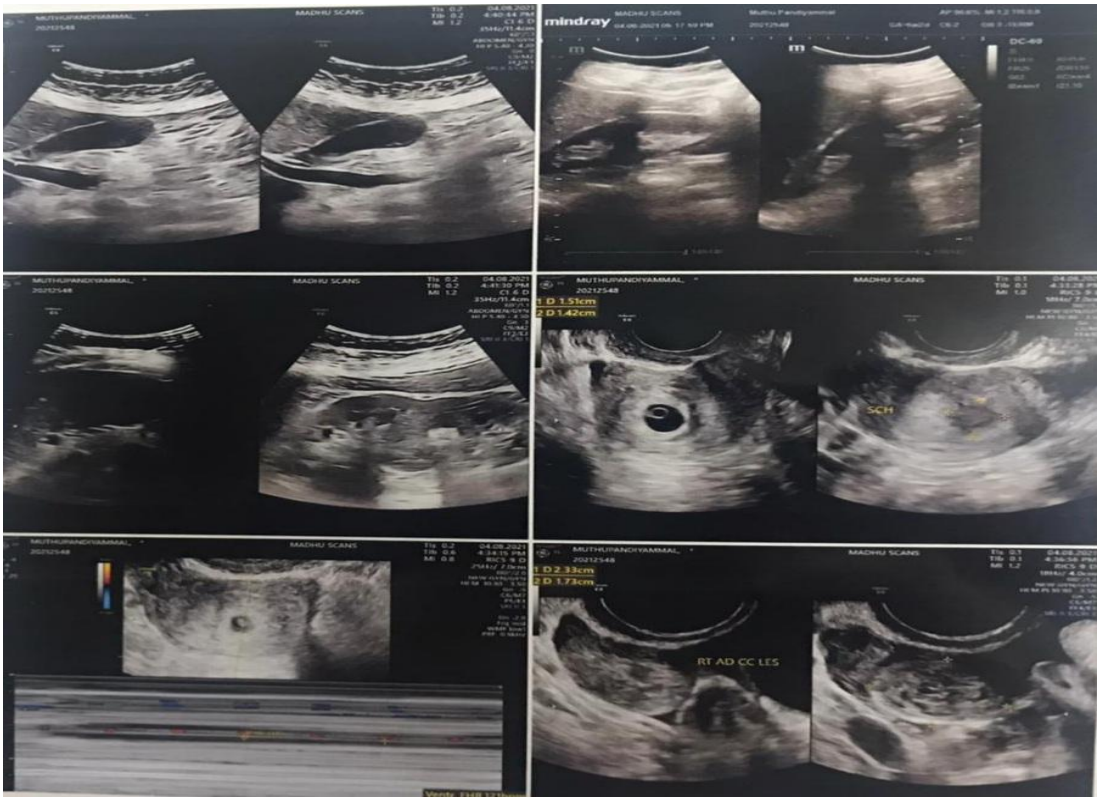

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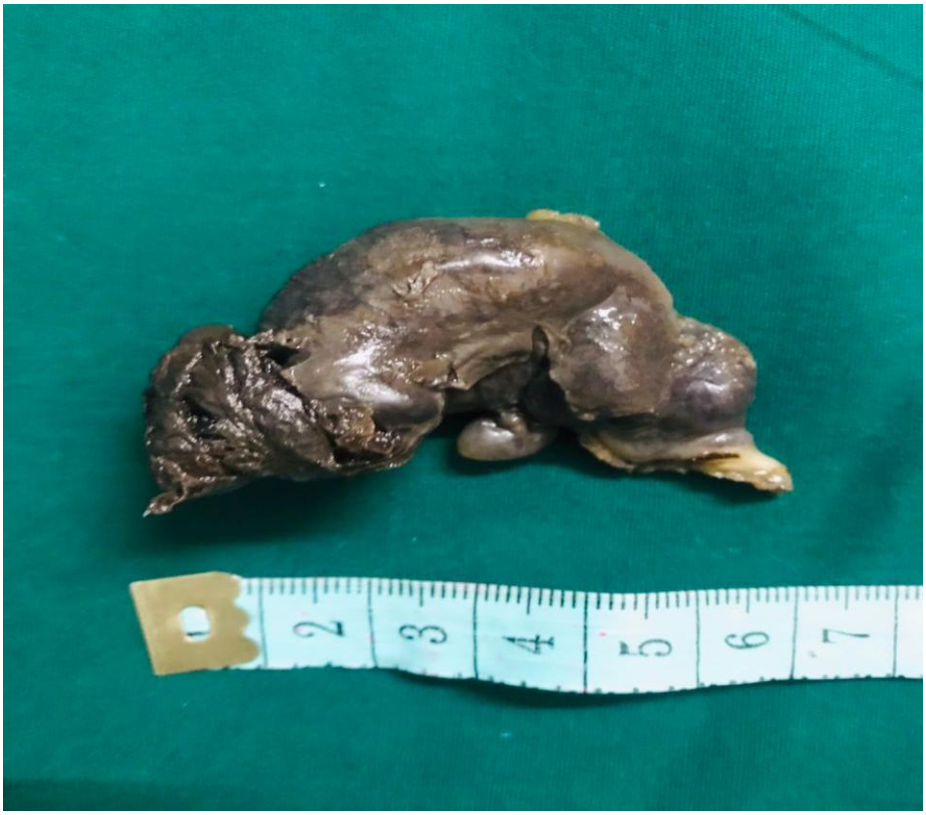
Figure 3 Right tubal ectopic – post salphingectomy specimen



Discussion:

Heterotopic pregnancy being a rare condition is missed often and the diagnosis in early stages is difficult and challenging especially in a spontaneous conception. Its **incidence has drastically increased with increased prevalence of PIDs, ART and IVF pregnancies.** In our case most likely the ectopic could be because of PID and repeated D&Cs. **According to Tenore, PID is the leading cause of ectopic pregnancy among all other risk factors**[8]. Therefore all genital tract infections must be given importance and need to be treated in women with reproductive age group. The diagnosis of heterotopic pregnancy is very difficult clinically and the differential diagnosis of heterotopic pregnancy include – ectopic pregnancy, threatened abortion, ovarian torsion. Transvaginal ultrasound is instrumental in revealing the correct diagnosis. In our case the diagnosis of heterotopic pregnancy was accurately made at the early stage with the help of transvaginal ultrasound . In view of retaining the viable intra uterine pregnancy and treating the ectopic pregnancy, there was a great dilemma and this makes the treatment challenging and difficult. Surgical intervention is the key role for the management of heterotopic pregnancy depending on the patient's clinical condition and the ultrasound findings[13]. Surgical management includes – laparotomy, laparoscopy, salphingectomy, salphingostomy, cornual resection, oophorectomy and even total abdominal hysterectomy. Surgical management has the advantage of complete removal of ectopic pregnancy

1. Haemodynamically unstable/signs of ruptured ectopic – emergency surgical management.
2. Haemodynamically stable/ viable intra uterine gestation – selective surgeries for removing ectopic gestation and retaining viable intra uterine gestation.
3. Haemodynamically stable/ nonviable intra uterine or ectopic gestation/ unruptured ectopic – expectant/ medical management.

The medical management includes – ultrasound guided aspiration of ectopic gestation with or without embryo killing drugs. **Methotrexate is contraindicated as it is teratogenic to the intra uterine viable embryo.**

In our case , hence it is a heterotopic pregnancy with viable intra uterine pregnancy with right tubal ectopic

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pregnancy with tubal abortion with impending rupture and left ovarian complex cystic lesion we have proceeded with surgical management of exploratory laparotomy with complete right salphingectomy

Conclusion:

To conclude, this case shows us the relationship of genital tract infections, repeated intra uterine curetting and pelvic adhesions with increased risk for heterotopic pregnancies even in spontaneous conception. Hence obstetricians should have a high level of suspicion in pregnant women with abdominal pain and vaginal bleeding. Viable intra uterine pregnancy with corpus luteal cyst should be watched and evaluated carefully to rule out heterotopic pregnancy. Heterotopic pregnancy is possible in natural conception also and the viability of the intra uterine fetus is feasible. Treating a simple genital infection plays an important role in preventing a risk factor for heterotopic pregnancy. Confirming intra uterine pregnancy clinically or by ultrasound does not exclude the coexistence of an heterotopic pregnancy. Management with laparotomy and laparoscopy can result in favourable and successful obstetrical outcome.

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