HETEROTOPIC PREGNANCY IN NATURAL CONCEPTION

CASE REPORT
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INTRODUCTION

Heterotopic pregnancy is defined as the presence of multiple gestations, with one being in the uterine cavity and the other outside the uterus commonly in the fallopian tube and uncommonly in the cervix or ovary. Heterotopic pregnancy is defined as the coexistence of intrauterine and extrauterine gestation. This is a rare situation with a reported prevalence of 0.08% in normal conception.

Heterotopic pregnancy, a rare phenomenon in the past, is now becoming more common because of assisted reproductive technique. Heterotopic pregnancies have increased alongside the advent of assisted reproductive technique. Ectopic pregnancy is a gynecologic emergency, generally requiring expeditious surgical or medical treatment. It was first reported in the year 1708 as an autopsy finding . Its occurrence is rare in spontaneous conception with an incidence of 1:30,000, while in assisted reproductive techniques (ART), the incidence is found to be as high as 1%[1].

About 1% of the pregnancies are in an ectopic location, of which 95–97% are located in the fallopian tube. The most common site is the ampullary portion of the tube (80%), followed by the isthmic segment of the tube (10%), the fimbria (5%) and the cornual and interstitial regions (2–4%)[2].

Clinical examination, serum beta human chorionic gonadotrophin (beta hCG) assay and transvaginal scanning as a diagnostic algorithm has a sensitivity of 100% and a specificity of 99%[3].

A high index of suspicion can help in timely diagnosis and appropriate intervention.We present a rare case of heterotopic pregnancy with live intrauterine gestation and ruptured right adnexal gestation in a natural conception.

CASE PRESENTATION

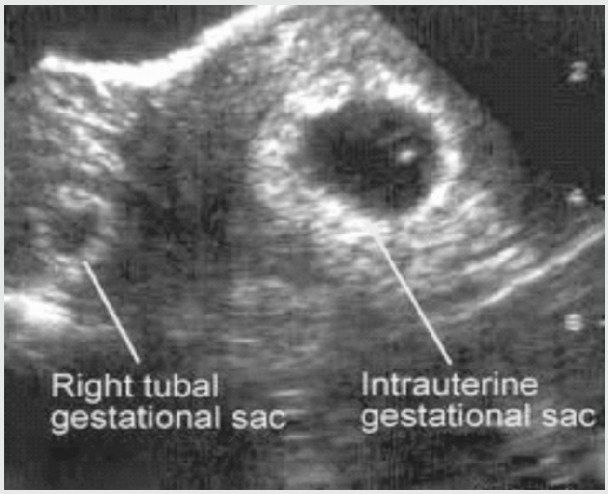
A 24-year-old primigravid belonging to Faisalabad and married for five month was seen in our emergency department with a history of a two episodes of per vaginal bleeding and acute pain in her abdomen of four hours duration. She was 8 weeks pregnant. It was a spontaneous conception and there was no past history of abortion, pelvic inflammatory disease or any history of abdominal surgery. On examination, she was pale with a pulse rate of 120 per minute and blood pressure of 100/60 mmHg.

Abdominal examination was soft but with tenderness in lower abdomen.

Pelvic examination revealed an anteverted, enlarged, soft and tender uterus corresponding to 8 weeks of pregnancy. In addition, a tender mass was also palpable in her right adnexa. Cervical tenderness was positive but there was no bleeding.

After initial resuscitation with intravenous fluids, she was further investigated. Her hemoglobin was 8.2 gm/dl with a normal white blood count (WBC) and platelet count. Urine for HCG (human chorionic gonadotropin) was positive. Ultrasonography revealed that uterus contain single gestational sac corresponding to gestational age. furthermore foetal pole and cardiac activity was positive.

USG also show a right adenexal mass about size of 3 ×4 cm A moderate amount of fluid was present in the cul-de-sac and in Morrison's space and a diagnosis of heterotopic pregnancy with tubal rupture was made.



Ultrasonography Showing Right Tubal Gestational Sac And Intrauterine gestational sac.

An emergency Laproscopy of the patient revealed an 8-week gravid uterus and right sided tubal pregnancy that was partically ruptured and the presence of approximately 0.5 liters of hemoperitoneum. Immediate Laparotomy done and right salpingectomy with removal of the hemoperitoneum was performed. Her intrauterine pregnancy remained normal postoperatively. USG repeated after 10 days show that baby was viable and parameters was according to gestational age.

The patient was discharged and followed-up regularly in the antenatal clinic. Her pregnancy also supported by human chorionic gonadotrophins. She had viable normal pregnancy up till now.

DISCUSSION

HP is diagnosed in the presence of multiple pregnancies with one or more intrauterine pregnancies co-existing with an ectopic pregnancy. The ectopic pregnancy can be tubal, ovarian, cervical, cornual or abdominal. Tubal ectopic pregnancies are the most common. Heterotopic pregnancy, was first described by Duverny in 1708. Traditionally, this was believed to be a rare condition, occurring in approximately one in every 30,000 pregnancies. However, recent studies suggest that the frequency may be much higher, especially in patients undergoing assisted reproduction-with the incidence as high as one in 7,963 to one in 900 reported. Patients taking fertility agents, such as clomiphene citrate, are also at increased risk for heterotopic pregnancy since multiple ovulations occur in these instances. In addition to ART, the same causative factors for ectopic pregnancy are operative in heterotopic pregnancy. It may manifest as an intrauterine pregnancy in conjunction with bilateral tubal ectopic pregnancies, tubal abortion, or even with a concomitant adnexal (ovarian) mass separate from the pregnancies. There is also a report of heterotopic pregnancy in association with a term gestation. Thus, a real diagnostic dilemma exists[1].

Early diagnosis of heterotopic pregnancy is difficult because of insufficient clinical symptoms. Classically, an ectopic pregnancy can present with abdominal pain due to peritoneal irritation and adnexal mass with or without bleeding per vaginum and hypovolemic shock if ruptured. Usually, vaginal bleeding with a rising beta hCG titer and no documentation of IU pregnancy is diagnostic of an ectopic pregnancy. This is rarely seen in hetrotopic pregnancies because of the intact endometrium of IU pregnancy.

The recent advances in beta hCG determination and transvaginal US have aided in the early diagnosis of heterotropic pregnancy. US, especially transvaginal scanning, has proven to be an invaluable tool in the diagnosis of this condition. At times, even with TVS, the adnexal sac can be mistaken for a hemorrhagic corpus luteum or ovarian cyst, especially in hyperstimulated ovaries. A heterotropic pregnancy goes unnoticed in the presence of IU pregnancy. Therefore, if the beta hCG levels are more for the period of gestation with an IU pregnancy, one must look for a coexistent tubal pregnancy.The sensitivity of TVS in diagnosing heterotropic pregnancy is only 56% at 5–6 weeks[2,3].

The detection rate of heterotopic pregnancy can vary from 41 to 84% with transvaginal ultrasound scans . It is influenced by factors like routine and easy access to transvaginal ultrasound scans for high risk patients with a

history of previous ectopic pregnancy and those who received fertility treatment[4].

With an increase in assisted conception the likelihood of detecting heterotopic pregnancy will increase but missed or delayed diagnosis of spontaneous heterotopic pregnancy remains a diagnostic dilemma and a challenge for gynaecologists. In a case series Louis-Sylvestre et al mentioned 13 cases of heterotopic pregnancy out of which only one case was a spontaneous heterotopic pregnancy, 6 with ovulation induction and 6 with IVF. The mean gestational age at the time of the diagnosis was 8 weeks and 54% heterotopic pregnancies were detected by transvaginal ultrasound. All the patients underwent surgical treatment out of which 10 had a laparoscopy and 3 had a laparotomy mainly for significant hemoperitoneum. They found laparoscopy to be useful for the early diagnosis of heterotopic pregnancy and resulted in good surgical outcomes[5].

The question however arises in women with spontaneous gestations who do not necessarily have early ultrasound scans. Women with previous ectopic pregnancy, tubal surgery or previous pelvic inflammatory disease may be at a higher risk and should be scanned at an early gestation to confirm the location of the pregnancy. Also a high index of suspicion is necessary in the low risk symptomatic patient with abdominal or pelvic pain in which ultrasound findings are consistent with intrauterine gestation sac while free fluid is noted in the pelvis with or without an adnexal mass.

The diagnostic role of serum beta hCG levels in heterotopic pregnancy is debatable[2,6,7].

Heterotopic pregnancies are usually diagnosed from 5 to 34 weeks of gestation[8]. Tal et al. reported that 70% of the heterotopic pregnancies were diagnosed between 5 and 8 weeks of gestation, 20% between 9 and 10 weeks and only 10% after the 11th week. Our case was diagnosed at 8 weeks, when the ectopic pregnancy was ruptured[9].

After diagnosis, the ectopic component in case of rupture is always treated surgically and the IU pregnancy is expected to continue normally. In case the ectopic pregnancy was detected early and was unruptured, treatment options include expectant management with aspiration and installation of potassium chloride or prostaglandin into the gestational sac[10]. Systemic methotrexate (MTX) or local injection of MTX cannot be used in a heterotopic pregnancy owing to its toxicity, although some authors have used instillation of a small dose[11].

The standard treatment for ectopic pregnancy is surgery by laparoscopy or laparotomy depending upon the condition of the patient. The main aim of the surgery should be the preservation of the intrauterine pregnancy with minimal manipulation of the uterus. Fertility results have been found to be the same after laparoscopy or laparotomy. Conservative or radical surgery may be done depending upon the condition of the contralateral tubeThe laparoscopic approach is technically feasible for patients without disrupting the course of an IU pregnancy[12,13].

A heterotopic pregnancy, though extremely rare, can still result from a natural conception; it requires a high index of suspicious for early and timely diagnosis; a timely intervention can result in a successful outcome of the intrauterine fetus.

CONCLUSIONS

An obstetrician should keep in mind the occurrence of a heterotopic pregnancy while dealing with pregnant females. The ectopic gestation invariably ruptures over a period of time leaving the patient in an emergency situation. A quick assessment and careful handling of the normal gestation can lead the patient to term with gratifying result. Heterotopic pregnancy can occur in the absence of any predisposing risk factors, and the detection of an intrauterine pregnancy does not exclude the possibility of the simultaneous existence of an ectopic pregnancy. Hence, in all patients of reproductive age, even in the presence of an intrauterine pregnancy, a complete review of the whole pelvis including adnexa should be done at the time of ultrasound to rule out the presence of a heterotopic pregnancy.

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"In any contest between power and patience, bet on patience."

(W.B. Prescott)