Ruptured Heterotopic Pregnancy: A Rare Cause for Hemoperitoneum; Report of Three Cases from Kashmir, India

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Abstract Heterotopic pregnancy has been found in various forms but is still a rare event in the natural conception cycles, occurring in less than 1:30000 pregnancies with the incidence rising to 1:100 to 1:500 pregnancies due to assisted reproductive technologies. Delay in diagnosing the condition can be fatal for both the mother and the fetus. Three patients aged 28, 31 and 26 years presented with amenorrhea of ten, eight and twelve weeks duration respectively with signs of peritonism and shock. Investigations revealed intra and extra uterine pregnancies in all the three cases with the rupture of the extra uterine pregnancies. All the cases were operated and first two cases were followed up postoperatively till the delivery of the term live babies. The third case is still under our follow up. A high index of suspicion by a general surgeon is needed in arriving at a prompt diagnosis of ruptured heterotopic pregnancy so that rapid resuscitation, heart sparing anesthesia and expeditious surgery is carried out for both maternal and intrauterine fetal wellbeing.

Keywords Heterotopic pregnancy · Hemoperitoneum

Case Histories

Three cases of heterotopic pregnancy are being reported by us. The first patient was a 28 year old female who reported to the surgical casualty of SMHS hospital Srinagar with complaints of severe abdominal pain of 12 hours duration.

The patient was having amenorrhea of 10 weeks and was on regular antenatal care at L.D hospital Srinagar. The patient was Para 2 and Gravida 1. There was no history of pelvic inflammatory disease, abortion or infertility. On examination, the patient was pale, had tachycardia and a blood pressure of 90/70 mmHg. Abdominal examination revealed diffuse lower abdominal tenderness with guarding and mild distension. Ultrasound scan revealed simultaneous extrauterine and intrauterine pregnancies. The extra uterine gestational sac was found on the right side of the uterus with no cardiac activity while as cardiac activity was noted in the intrauterine pregnancy. There was free fluid in the cul-de-sac suggestive of intra peritoneal hemorrhage. A diagnosis of ruptured ectopic with a viable intrauterine pregnancy was made and exploratory laparotomy with right salpingectomy was done. Histopathology confirmed the diagnosis of ectopic pregnancy in right fallopian tube. Postoperatively patient was given two units of blood transfusion and a repeat ultrasound scan done on the 7th postoperative day confirmed the intrauterine pregnancy. Patient was regularly followed up to 40 weeks of gestation when she had a spontaneous vaginal delivery of a healthy male baby. Postnatal period was also uneventful.

The second patient was a 31 year old Para 0 Gravida 2 female with past history of secondary infertility following an abortion and polycystic ovarian disease on metformin and was given ovulation induction therapy with clomiphene citrate. The patient reported to the surgical casualty of SMHS hospital Srinagar in the 8th week of gestation with acute abdominal symptoms of three hours duration. On examining the patient she had tachycardia and a blood pressure of 90/60 mmHg. Abdominal examination revealed diffuse abdominal tenderness and guarding in this patient also. Abdominal paracentesis was negative but ultrasound examination revealed an intrauterine sac of eight weeks

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duration with a fetal node and an extrauterine left sided tubal pregnancy which had ruptured, with free echogenic fluid in pelvis. Based on these finding a diagnosis of a viable intrauterine and a ruptured extrauterine pregnancy was made. Emergency laparotomy with left salpingostomy with primary repair of the tube was performed. The conceptus was sent for histopathological examination which also confirmed a ruptured ectopic pregnancy. Patient received two units of the blood transfusion postoperatively. Postoperative ultrasound performed after two weeks confirmed a viable intrauterine pregnancy. Postoperative period was uneventful. Patient was put on progesterone for one week and HCG biweekly. The pregnancy was followed till term when she delivered a healthy male baby by an elective caesarian section. Postnatal period was uneventful.

The Third patient was a 26 year old newly married Para 0 Gravida 1 female and again presented to the casualty department of SMHS Hospital with history of abdominal pain of seven hours duration and a syncopal attack. The patient had amenorrhea of twelve weeks duration. The patient was pale with signs of shock. Abdominal examination revealed uterus of ten to twelve weeks duration and diffuse tenderness. Again the diagnosis was confirmed by a transcutaneous ultrasound examination of the patient which revealed the presence of simultaneous intrauterine and right sided extrauterine pregnancies along with free echogenic fluid in general peritoneal cavity. The intrauterine pregnancy was viable. Patient was operated and a fetus, in a pool of blood, of almost twelve weeks duration was found in the pelvis near the right adenexa (Figs. 1 and 2). Right salphingectomy with peritoneal mopping was done. The postoperative management was similar to the other two patients and is still being followed up.

Fig. 1 Ruptured extrauterine pregnancy of 10 weeks duration

Fig. 2 Ruptured extrauterine pregnancy of 10 weeks duration

Discussion

Simultaneous intrauterine and extrauterine pregnancy is called as heterotopic pregnancy. It has been found in various forms but still is a rare event in the natural conception cycles occurring in less than 1:30000 pregnancy [4]. But with assisted reproductive techniques the incidence raises to 1:100 and 1:500 pregnancies [3, 6]. The presence of an intrauterine pregnancy tends to impede the early diagnosis and precludes definitive intervention for the ectopic pregnancy. 70% of the ectopic pregnancies are diagnosed between five and eight weeks of gestation, 20% between nine and ten weeks and 10% after eleven weeks of gestation. Delay in diagnosing the condition can be fatal to both the mother and the intrauterine fetus. The patients present with abdominal pain in 83% of cases, hypovolumic shock with abdominal tenderness in 13% [3]. In our cases abdominal pain with hypovolumic shock and abdominal tenderness were the common presentation. Identification of the ectopic pregnancy by sonography has a low sensitivity (0.56) [1]. Serial samples of β HCG can also be misleading in cases of heterotopic pregnancy [5]. Abdominal paracentesis may diagnose a case of haemoperitonium but even if it is negative a heterotopic pregnancy can not be till excluded.

Laparoscopy or laparotomy with minimal manipulation of the uterus should be the standard form of treatment in these patients [5]. In all of our cases laparotomy was done with salphingectomy in two cases and salpingostomy with primary repair of tube in one case. Local injection of potassium chloride has also been advocated as another form of treatment in case of unruptured ectopic pregnancy [2]. In two of our cases intrauterine pregnancies proceeded to full terms without any complications and the third is being followed up. A live intrauterine pregnancy rate of 66.5 was found in a review 139 cases of heterotopic pregnancy treated mainly by surgery [6].

Conclusion

A high index of suspicion by a general surgeon is needed in arriving at a prompt diagnosis of ruptured heterotopic pregnancy so that rapid resuscitation, heart sparing anaesthesia and expeditious surgery is carried out for both maternal and intrauterine fetal wellbeing.

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