Ruptured heterotopic pregnancy: a report of unusual acute abdominal syndrome in two cases

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Summary

A heterotopic pregnancy is in effect a multiple pregnancy with one or more intrauterine pregnancies coexisting with an ectopic pregnancy. Prompt diagnosis, rapid fluid and blood resuscitation, heart-sparing anesthesia and gentle, expeditious surgery collectively contribute to a favorable outcome for the mother and fetus in patients with a ruptured tubal pregnancy.

In this report we present two cases of heterotopic pregnancies with ruptured tubal components; one spontaneous and the other one after clomiphene citrate treatment.

Explorative laparotomy and salpingectomy were performed in both patients. After surgery, the intrauterine pregnancies were not damaged, and were still healthy on progression.

Key words: Heterotopic pregnancy; Acute abdominal syndrome.

Introduction

Heterotopic pregnancy, also called combined pregnancy, associates extrauterine pregnancy and intrauterine pregnancy. It is estimated to be less frequent than 1:30,000 if no assisted reproduction technologies (ART) are performed. After ART this entity is more frequent and in the range of 1:100 [1]. Because heterotopic pregnancy is rare, the presence of an intrauterine pregnancy tends to impede diagnosis and definitive intervention for the ectopic component. Transvaginal ultrasound generally gives the diagnosis which may be confirmed by laparoscopy, allowing treatment of the extrauterine pregnancy.

In this report two cases of heterotopic pregnancies with ruptured tubal components are presented. Diagnosis, management and outcome are discussed.

Cases report

Case 1

A 28-year-old primigravida was referred to our department because of acute abdominal syndrome at ten weeks of pregnancy. She became pregnant after clomiphene citrate therapy and was diagnosed to have abortus imminence in her fifth week of gestation. She was replaced on oral micronize progesterone (300 mg/day) therapy by her gynecologist, but her vaginal bleeding continued. When the patient was admitted to our department, she was semi-conscious, quite pale with a blood pressure of 80/40 mmHg and a heart rate of 112 bpm. Her physical examination revealed signs of acute abdominal syndrome, and her hemoglobin value was 7.5 g/dl. Her abdomino-pelvic ultrasonography suggested an intrauterine pregnancy of ten weeks showing cardiac activity, a mass of 10 cm in diameter with mixed echoic-pattern to the right side of the uterus, and intra-abdominal hemorrhagia (Figure 1). Explorative laparotomy revealed a uterus of 10 weeks'gestation, ruptured right tuba 3 x 6 cm in size, and intra-abdominal hemorrhagia of approximately 2 l. She underwent right salpingectomy. She was administered prophylactically hydroxy-progesterone caproate, 250 mg IM, twice with an interval of three days in the postop period. She is at 32 weeks of gestation now with a healthy progression.

Case 2

A 21-year-old primigravida was admitted to our emergency clinic because of vaginal bleeding and acute abdominal syndrome at eight weeks of pregnancy (spontaneous). She was semi-conscious, pale with a blood pressure of 90/50 mmHg and a heart rate of 108 bpm. Her physical examination revealed signs of acute abdominal syndrome. She had a hemoglobin value of 9 g/dl. Her abdomino-pelvic ultrasonography revealed both intrauterine and extrauterine pregnancies at eight weeks showing fetal cardiac activity and intra-abdominal hemorrhagia (Figure 2). Explorative laparatomy revealed a uterus of 8 weeks' gestation, a ruptured right tuba 7 x 6 cm in size, and approximately 1500 cc of intra-abdominal hemorrhagia. She underwent right salpingectomy. She was replaced on prophylactic hydroxy-progesterone caproate, 250 mg IM, twice with an interval of three days in the postop period. She is at 30 weeks'-gestation pregnant now with a healthy progression.

Pathologic report:

Salpingectomy materials measured 6.5 x 1.5 x 1.5 cm (case 1) and 4.5 cc in volume tissue specimens (case 2). On section of case 1 there was a cystic space 1 x 1 x 0.7 cm in diameter with hemorragic fluid, and the inner side of the cyst wall was lined with a thin membrane which covers a spongy and papillary natured tissue. Microscopically in both of the cases the lumens of fallopian tubes were included chorionic villi (Figure 3).

Discussion

The diagnosis of heterotopic pregnancy is often difficult. Delay in diagnosis of the condition and failure to proceed quickly with the requisite anesthesia and surgery can jeopardize both maternal well-being and survival of the intrauterine fetus. In unruptured heterotopic pregnancies, ultrasound-guided transvaginal injection of potas-

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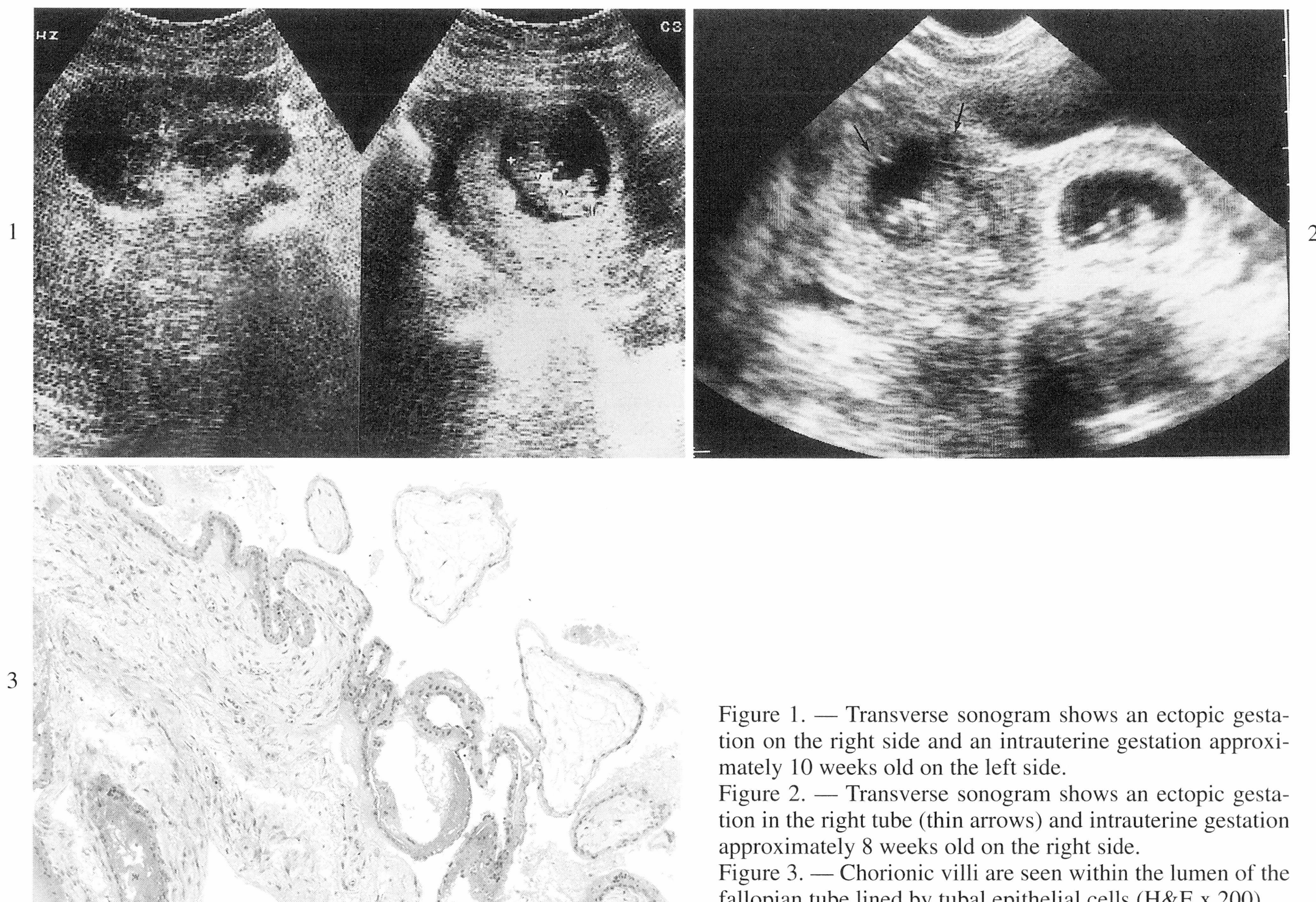

Figure 1. — Transverse sonogram shows an ectopic gestation on the right side and an intrauterine gestation approximately 10 weeks old on the left side.
Figure 2. — Transverse sonogram shows an ectopic gestation in the right tube (thin arrows) and intrauterine gestation approximately 8 weeks old on the right side.
Figure 3. — Chorionic villi are seen within the lumen of the fallopian tube lined by tubal epithelial cells (H&E x 200).

sium chloride (KCL), and hyperosmolar glucose into the ectopic gestational sac may be used for resorption of the ectopic fetus [2, 3]. Laparoscopic surgery might be an appropriate method to manage some carefully selected patients with heterotopic pregnancy [4].

For acute abdominal conditions mini-laparotomic salpingectomy under general anesthesia is probably the safest treatment for the patient and the least traumatic for a good outcome of an intrauterine pregnancy [5]. Silva *et al.* reported a patient with a heterotopic pregnancy who had received clomiphene citrate for ovulation induction [6]. Our case report includes two heterotopic pregnancies, one spontaneous and the other one after clomiphene citrate treatment. Both patients presented with acute abdominal syndrome, and the abdomino-pelvic ultrasonographies suggested ruptured heterotopic pregnancies. We performed explorative laparotomy and salpingectomy in both patients. After surgery, the intrauterine pregnancies were not damaged, and were still healthy on progression. In conclusion, there is insufficient evidence to recommend any single treatment modality, and the decision should be based on factors such as clinical presentation, surgeon expertise, side-effects and patient preference. Prompt diagnosis, rapid fluid and blood resuscitation, heart-sparing anesthesia and gentle, expeditious surgery collectively contribute to a favorable outcome for the mother and fetus in patients with a ruptured tubal pregnancy.

References

[1] Ludwig M., Kaisi M., Bauer O., Diedrich K.: "Heterotopic pregnancy in a spontaneous cycle: do not fotget about it". *Eur. J. Obstet. Gynecol. Reprod. Biol.*, 1999, *87*, 91.

[2] Scheiber M. D., Cedars M. I.: "Successful non-surgical management of a heterotopic abdominal pregnancy following embryo transfer with cryopreserved-thawed embryos". *Hum. Reprod.*, 1999, *14*, 1375.

[3] Strohmer H., Obruca A., Lehner R., Egarter C., Husslein P., Feichtinger W.: "Successful treatment of a heterotopic pregnancy by sonographically guided instillation of hyperosmolar glucose". *Fertil. Steril.*, 1998, *69*, 149.

[4] Wang P. H., Chao H. T., Tseng J. Y., Yang T. S., Chang S. P., Yuan C. C., Ng H. T.: "Laparoscopic surgery for heterotopic pregnancies: a case report and a brief review". *Eur. J. Obstet. Gynecol. Reprod. Biol.*, 1998, *80*, 267.

[5] Giacomello F., Larciprete G., Valensise H., Romanini C.: "Spontaneous heterotopic pregnancy with live embryos: an insidious echographic problem in the first trimester. Therapeutic problems". A clinical case and review of the literature". *Minerva Ginecol.*, 1998, *50*, 151.

[6] Silva P. D., Meisch A. L.: "Laparoscopic treatment of heterotopic pregnancy". *J. Am. Assoc. Gynecol. Laparosc.*, 1995, *2*, 213.

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