

Management and outcome of heterotopic interstitial pregnancy case report and review of literature.

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INTRODUCTION

Because of the more common use of ART, which implies a rise in both ectopic pregnancy as well as dizygotic twinning rates, one has observed an increase of heterotopic pregnancies to one in 3600 pregnancies overall and even 1,5% in ART. The incidence of heterotopic interstitial pregnancy after in vitro fertilization is unknown, but can be estimated to be as high as one in 3600 IVF pregnancies.

OBJECTIVES

To report a case of heterotopic interstitial pregnancy after IVF-embryo transfer which presented with second trimester uterine rupture. To review the clinical presentations, risk factors, treatment options and outcome of heterotopic interstitial pregnancies.

CASE REPORT

A 35 year old pregnant woman with a history of right adnexectomy, D&C for missed abortion and a laparoscopic ovarioplasty and adhesiolysis, was admitted at our department with unexplained recurrent abdominal pain and anemia. She was 16 weeks pregnant of a dichorionic diamniotic twin after IVF, with transfer of 2 embryos. Further investigation with MRI showed a hemoperitoneum without obvious origin of bleeding. Because of hypovolemic shock an emergency laparotomy was performed, with diagnosis of a ruptured heterotopic interstitial pregnancy. The cornual defect was sutured. The intrauterine pregnancy was uneventful afterwards. A caesarean section was performed at 33 weeks after administration of corticosteroids because of the risk of uterine rupture due to increasing pressure on the cornual scar when pregnancy progresses and the presence of a placenta previa.



Fig 1: Ultrasound of twin pregnancy performed at gestational age of 12 weeks

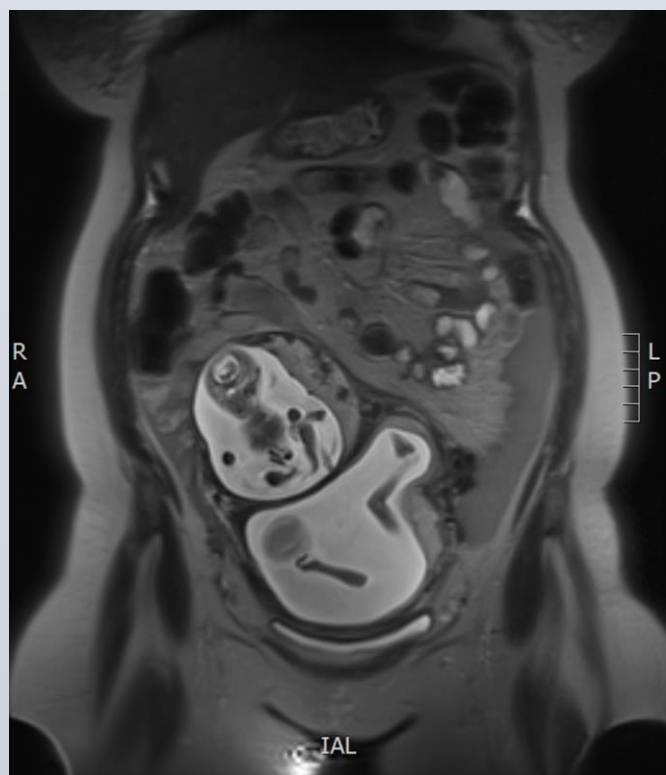


Fig 2: MRI performed during hospitalisation because of anemia and abdominal pain, revealing hemoperitoneum

RESULTS

In literature we found 87 cases reporting on heterotopic interstitial pregnancies.

Risk factors

80,5% (70/87) occurred after IVF-embryo transfer. History of salpingectomy is a major risk factor, present in 40,2% (35/87) of cases.

Presentation

Gestational age at diagnosis ranged from 4 to 30 weeks (mean +/-SD; 9,4+/-5,2 weeks). Four (4,6%) were diagnosed in the third pregnancy trimester. 37,9% (33/87) of cases presented with cornual rupture.

Treatment

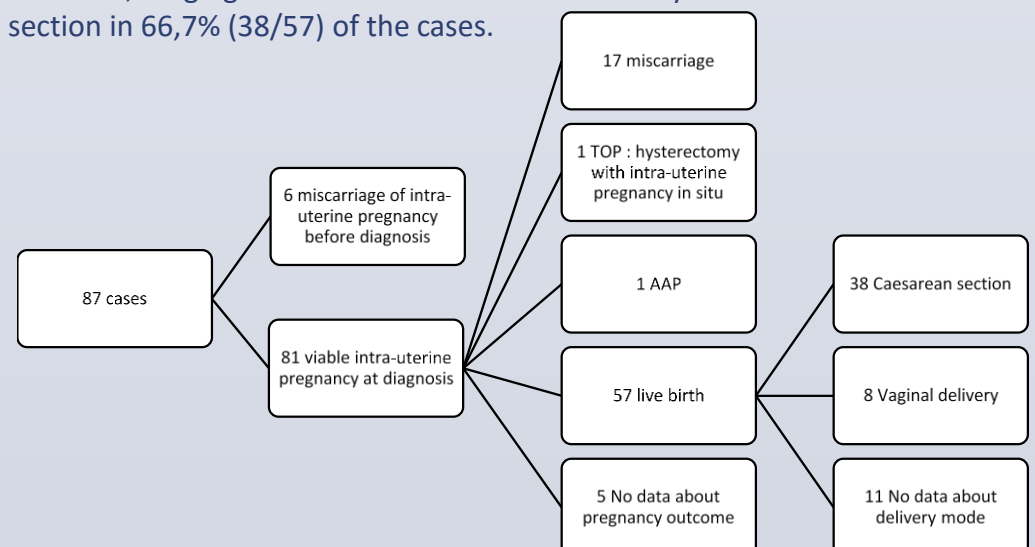
Surgery to excise the heterotopic twin was performed in 55,2% (48/87) of cases. Surgery consisted of laparotomy in 62,5% (30/48) and laparoscopy in 35,4% (17/48) of cases, with laparoscopic approach gaining importance over time. All patients presenting with cornual rupture were treated surgically. Medical management was possible in case of unruptured, early diagnosed heterotopic interstitial pregnancy (32,2% (28/87)).

Watchful waiting was only possible when the interstitial pregnancy had no cardiac activity (5,7% (5/88)).

Treatment	Number (n=87)	% total (% subgroup)
Surgery	48	55.2
Laparoscopy	17	34.5 (62.5)
Laparotomy	30	19.5 (35.4)
NOS	1	1.1 (2.1)
Medical treatment	28	32.2
KCl	15	17.2 (53.6)
Hyperosmolar glucose	5	5.7 (17.9)
Aspiration only	5	5.7 (17.9)
Methotrexate	1	1.1 (3.6)
Methotrexate + KCl	1	1.1 (3.6)
Hypertonic NaCl	1	1.1 (3.6)
Whatchfull waiting	5	5.7
No data	7	8.0

Outcome

The miscarriage rate for the intra-uterine pregnancy, whenever viable at presentation, was 21,0% (17/81) and the live birth rate was 70,4% (57/81). The live birth rate of the interstitial pregnancy is only 4,6% (4/87), these are all the cases diagnosed with a ruptured interstitial pregnancy in the third gestational trimester, ranging from 26 to 30 weeks. The delivery mode was a caesarean section in 66,7% (38/57) of the cases.



CONCLUSION

A heterotopic interstitial pregnancy is an extremely rare type of twin pregnancy that implicates a diagnostic and therapeutic challenge. The majority of cases are diagnosed by detailed ultrasound in the setting of early follow-up after IVF-embryo transfer and are asymptomatic at diagnosis. Yet, a substantial part of patients present with cornual rupture. Risk factors are IVF-embryo transfer and a history of salpingectomy. Treatment options encompass watchful waiting, medical treatment or surgery, all depending on clinical presentation and medical experience. In medical treatment, the use of potassium chloride is preferred and teratogenic drugs such as methotrexate should be avoided. Unfortunately, the interstitial pregnancy is generally lost, and only has a chance of survival in case of presentation at a viable gestational age. Outcome of the coexisting intra-uterine pregnancy is generally good and a caesarean section is advised as delivery mode.