CASE REPORT

Twin pregnancy with a complete hydatidiform mole and co-existing fetus following in-vitro fertilization

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Hydatidiform mole with a co-existing live fetus is a rare event. We report the case of a 41 year old Caucasian woman who attended for in-vitro fertilization. Three embryos, containing two apparently normal pronuclei, were transferred into the uterus. A twin pregnancy with a live fetus and a complete mole ensued. The pregnancy was managed conservatively until 28 weeks gestation when, following an episode of major antepartum haemorrhage, a live female infant was delivered by Caesarean section. The mole, weighing over 1.7 kg, was successfully evacuated (Figure 2). Histological examination of the entire lower segment, she was delivered by classical Caesarean section.

Keywords: HCG/in-vitro fertilization/molar pregnancy/placenta/twin pregnancy

Introduction

Gestational trophoblastic disease is known to be associated with increased maternal age and is more commonly seen in Far East populations. In the late 1970s, the single disease entity was subdivided into partial moles with a fetal pole, often with triploidy, and complete molar pregnancies, without fetal tissue, which were diploid but derived entirely from paternal genes (Vassilakos et al., 1977; Szulman and Surti 1978a,b). Rarely, even in the Far East, a complete hydatidiform mole (CHM) and a co-existing normal pregnancy is found (Harada et al., 1997; Chen, 1997). When the diagnosis has been made ante-natally, most patients have opted for termination of pregnancy to avoid/reduce the risks of malignant change and complications such as pre-eclampsia and antepartum haemorrhage (APH) (Steller et al., 1994). However, where CHM and a co-existing fetus occurs in a woman achieving a first conception in later life or after many attempts of assisted conception, the dilemma is enormous. We report such a case, diagnosed in the second trimester which, in spite of the molar size, was managed conservatively with a successful pregnancy outcome for both mother and baby.

Case report

This 41 year old, para 1 + 0 was known to have endometriosis. Her first pregnancy was a spontaneous conception after a lengthy time of primary infertility and was uncomplicated. After 7 years of secondary infertility she was referred for assisted conception. Following ovarian suppression with gonadotrophin-releasing hormone (GnRH) analogue, follicular growth was stimulated using purified urinary menopausal gonadotrophins. Fourteen oocytes were retrieved under transvaginal ultrasound guidance and the oocytes then inseminated in a concentration of 100,000 motile spermatozoa per oocyte. Fertilization was confirmed the following day and eight oocytes noted to be normally fertilized (two pronuclei seen). These all cleaved and three 4-cell embryos (grade 1) were transferred into the uterus 48 h after egg collection. Progesterone pessaries were used for luteal support. Four weeks following embryo transfer two fetal poles, each with a positive fetal heart, were identified on transvaginal ultrasound. In addition, a third poorly defined sac was outlined. The patient had recurrent episodes of fresh vaginal bleeding but since repeat ultrasound demonstrated only one viable fetal pole the bleeding was ascribed to failure of the other pregnancies. By 16+ weeks gestation the ‘collapsed’ sac had increased substantially in size and appeared cystic. An elevated serum human chorionic gonadotrophin (HCG) level of 22.77 multiples of the medium (MOM) (840,000 mIU/ml) was noted on second trimester serum screening. The patient was referred for further evaluation.

Ultrasound demonstrated a viable, structurally normal 16 week old fetus with a normal-looking placenta. The entire lower segment of the uterus was occupied by a large cystic mass. The appearance was in keeping with a molar pregnancy, which was significantly larger than the normal pregnancy (Figure 1). During the following 10 weeks, the patient had several episodes of APH, all of which settled spontaneously. In addition, she also developed significant proteinuria with mild hypertension and borderline renal function. The ‘mole’ continued to grow in size with advancing gestation and the uterus remained very large for dates. Intramuscular betamethasone was administered to promote fetal lung maturity. At 27 + 6 weeks gestation, the patient had a significant APH and continued to bleed heavily. As the mole occupied the entire lower segment, she was delivered by classical Caesarean in the maternal interest. A live female infant (980 g) and normal placenta (127 g) were delivered. Thereafter more than 1700 g of cystic, vesicular tissue was extracted and the uterus completely evacuated (Figure 2). Histological examination...
confirmed the clinical impression of one normal placenta and a second complete hydatidiform mole (46,XX). To confirm the histological diagnosis of CHM, DNA was extracted from the molar tissue and compared with DNA obtained from paternal and maternal blood lymphocytes. Polymorphic markers from six different chromosomes, 4, 6, 7, 13, 14 and 15 were examined using polymerase chain reaction (PCR). This indicated isodisomy, thus establishing that the mole pregnancy arose from a single spermatozoa (Figure 3).

Post-operatively, serial serum HCG concentrations showed a steady fall (Figure 4) and remained normal at 24 months post delivery. The infant spent 7 weeks in the paediatric unit. She developed a moderate degree of retinopathy due to prematurity, which required laser treatment, but to date has achieved normal milestones of development.

Discussion

Twin pregnancies with a molar pregnancy and a co-existing viable fetus have been described (Jinno et al., 1994). Until recently, it was commonly a retrospective diagnosis, and therefore no clinical decision was required. Of the CHM and twins detected ante-natally, most were terminated once the diagnosis was made. As a result the natural history of pregnancies affected by a true complete mole and a co-existing twin...