Conservative Management of Cervical Ectopic Pregnancy Resistant to Methotrexate Therapy

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Citation

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Abstract

A case of methotrexate resistant cervical ectopic pregnancy is presented. It was successfully treated by fetocide with intracardiac potassium-chloride followed by selective internal-iliac and descending-cervical-artery embolisation and subsequent curettage. Such a stepwise approach is advisable to preserve fertility.

INTRODUCTION

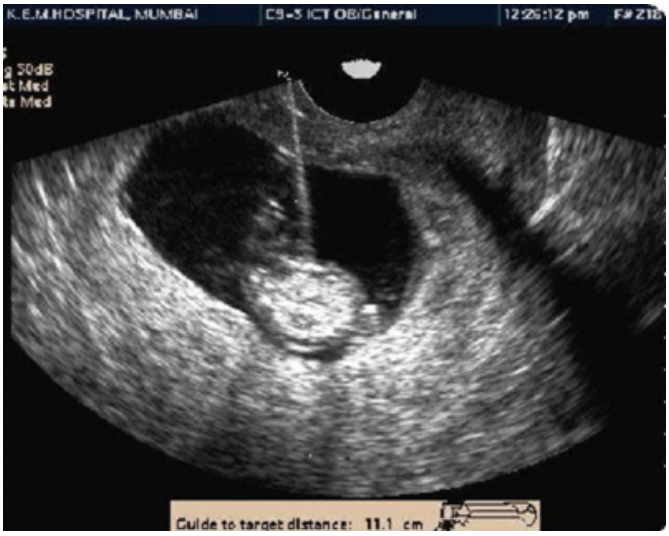
Cervical ectopic-gestation is the rarest ectopic pregnancy, the increasing[2] incidence ranging from 1:18000 to 1:1000 pregnancies.[1] Advancing ultrasound and quantitative β-hCG assay allows earlier management with an improved outcome.[3] Local/systemic methotrexate is successful and preserves fertility.[1] We report a methotrexate resistant case of cervical ectopic gestation and describe the stepwise management we followed.

CASE REPORT

A 38-year-old multigravida, with previous one LSCS and 3 months amenorrhoea was referred to our tertiary centre diagnosed with cervical ectopic gestation. Patient was asymptomatic with an unremarkable medical history. Systemically, abdomen was soft with a lower midline scar. Pelvic examination revealed a bulky uterus with a soft anteriorly ballooned up cervix and a closed os with no bleeding. Uterine fundus was felt separately. Ultrasound (Fig.1) confirmed a single viable 10-weeks cervical ectopic-gestation.

Figure 1

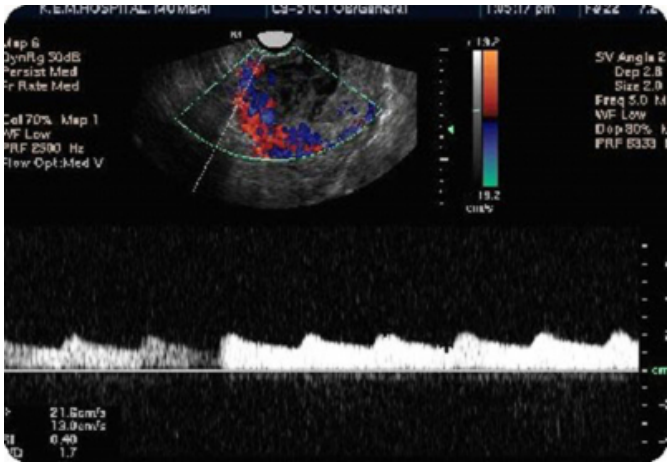
Figure 1: Transvaginal Ultrasound showing 10 week cervical ectopic gestation



Options, risks and benefits of various treatment modalities were explained to the patient. In order to preserve fertility she opted for conservative treatment. Baseline hematological profile, liver and renal function tests were evaluated. Methotrexate (1mg/kg)-four doses alternating with folinic acid(0.1mg/kg) were administered intramuscularly. After 7 days however, serum β-hCG assay showed no decline. Fetal cardiac activity persisted on ultrasound. (Fig.2)

Figure 2

Figure 2: Doppler showing persistent fetal cardiac activity



Following failure of systemic methotrexate, a decision to administer intrasac-methotrexate with intracardiac potassium-chloride was taken with consent for SOS hysterectomy. The procedure went uneventfully.

On day 3 and 5, the serum β-hCG declined but Doppler studies showed an increased peri-trophoblastic tissue vascularity. A repeat course of systemic-methotrexate/folinic-acid(IM) was administered. Serum β-hCG levels declined again, but the peri-trophoblastic tissue vascularity increased further. Considering no possibility of spontaneous resolution of the 10-week fetal skeletal tissue, a cervical curettage was planned 3 to 4 weeks later. To prevent torrential bleeding, selective internal-iliac and descending-cervical artery embolisation (Fig.3&4) was done prior to the procedure.

Figure 3

Figure 3: Angiography showing internal iliac and descending cervical artery

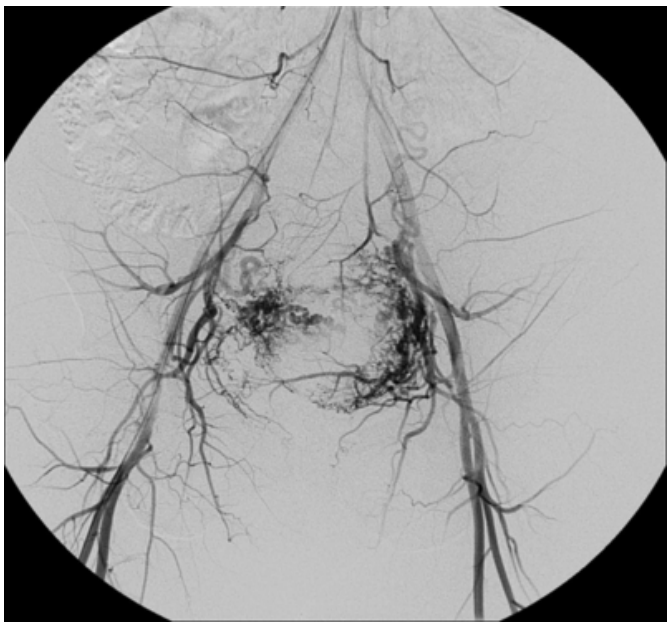
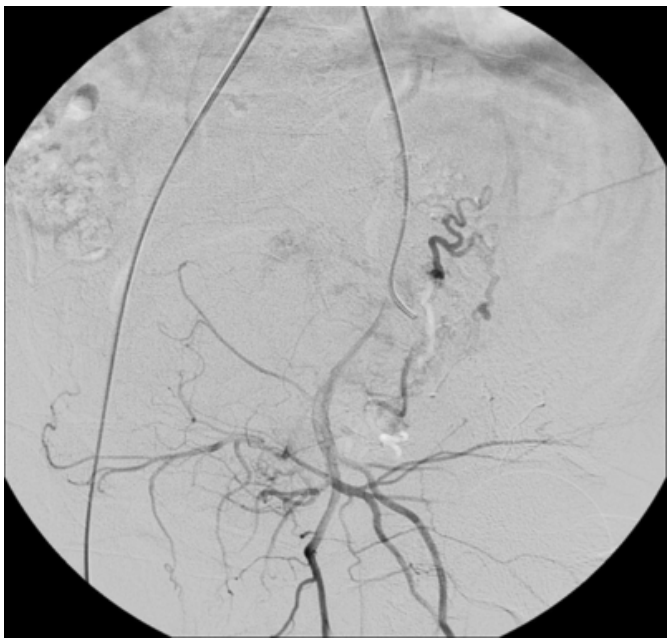


Figure 4

Figure 4: Angiography image post embolisation



Curettage was uneventful. Patient was discharged on day 3. On follow-up serum β-hCG values reached zero-level by day 15. Patient is well on subsequent follow-ups.

DISCUSSION

Cervical ectopic-gestation has been reported increasingly in literature. Recent advances in sonography and biochemical assay enables early diagnosis with improved outcome.[3]

Diagnosis requires the presence of a gestation sac in a widened cervical canal with peri-trophoblastic flow on Doppler.[1] TVS-Sonoscan in our patient showed a single viable 10-weeks cervical gestation with characteristic peri-trophoblastic activity.

Management options may be surgical or medical.[3] Surgical interventions include cervical-circlage, intracervical-balloon-tamponade, vaginal packing after dilatation-curettage, ligation of the internal-iliac-artery and lastly hysterectomy. Medical management includes methotrexate.[1] It inhibits folic acid synthesis, reduces activity of proliferative cells and can be administered by intramuscular, intraarterial and intraamniotic routes. Recognised adverse effects of systemic methotrexate unlike intrasac-methotrexate[1] include nausea, vomiting, thrombocytopenia or deranged LFT. None was found in our patient.

Stepwise approach has been reported efficacious in management.[3] Systemic methotrexate is the initial treatment protocol.[3] Resistant cases with persistent fetal cardiac-activity may be offered intraarterial[2] or intrasac-methotrexate with intracardiac-potassium chloride.

We resorted to intrasac-methotrexate and intracardiac-potassium-chloride to avoid toxicity of intraarterial-methotrexate. Although selective uterine artery embolisation followed by intraamniotic-methotrexate has been claimed efficacious, it was not tried in our case to avoid serious tissue ischemia. We administered the second cycle of intramuscular-methotrexate to reduce vascularity that persisted. Further failure guided us to selective internal-iliac and descending-cervical artery embolisation pre-curettage, to reduce the risk of uncontrolled hemorrhage and hysterectomy. Following this stepwise approach we were successful in preserving our patient's fertility.

Summarising, for a large cervical ectopic-gestation with failed medical therapy, selective arterial embolisation followed by cervical dilatation and removal of bony products of conception is a safe and effective method for preserving fertility.

References

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