

Cervical pregnancy in an HIV-infected patient treated by uterine artery embolisation and methotrexate

To the Editor: Cervical pregnancy, first described by Rubin in 1911,¹ is a rare but dangerous type of ectopic pregnancy with an incidence ranging from 1:1 000 to 1:18 000 pregnancies.² Initially, cervical pregnancy was usually diagnosed at the time of evacuation in the operating room with severe to haemorrhage. Early diagnosis by ultrasound³ led to an improvement in morbidity, but the next breakthrough was in the early 1980s when methotrexate was introduced as a method of treatment.³ Although internal iliac artery ligation has been used in some cases, uterine artery embolisation came into use during the 1990s and proved to be very effective in controlling acute bleeding.⁴ In this report we describe the first case of cervical pregnancy in an HIV-infected patient, treated by uterine artery embolisation and methotrexate.

Case report

A 24-year-old woman, gravida 2, para 1, presented with 16

weeks' amenorrhoea followed by lower abdominal pain and a mild, dark vaginal bleeding of 2 days' duration. The history did not reveal any information of importance.

Her temperature was 36.7°C, pulse rate 54 beats/minute, blood pressure 127/78 mmHg and respiratory rate 20/minute. There was no detectable lymphadenopathy. The abdomen was soft with normal bowel sounds and the uterus was not palpable. Vaginal examination revealed a barrel-shaped cervix with membranes visible within the external cervical os, which was 1 cm dilated.

An ultrasound examination revealed an hourglass-shaped uterus with the gestational sac within the cervix. A fetal pole was visible without a heartbeat and the size of the gestational sac was compatible with a pregnancy of 8 weeks' duration. The patient tested positive for HIV infection with a CD4 count of $530 \times 10^6/L$.

Primary treatment consisted of uterine embolisation via catheterisation of the femoral arteries, with the aid of



continuous X-ray imaging. Spongostan standard gelatin sponge (Johnson and Johnson Medical, Skipton, UK) was cut into small blocks (< 1 cm diameter), suspended in a saline solution with heparin and injected into the uterine arteries with an immediate and marked reduction in uterine blood flow. Following the procedure, a single dose of 50 mg methotrexate was given intramuscularly.

Three days after embolisation the patient experienced mild suprapubic pain with a haemorrhagic vaginal discharge. An ultrasound examination performed on the fourth day showed an absent gestational sac with only a thickened endocervical epithelium. On discharge from hospital the patient received contraception in the form of depo-medroxyprogesterone acetate 150 mg intramuscularly.

Two weeks later she presented again with acute pain just below the umbilicus. She acknowledged having had coitus during these 2 weeks. Her temperature was 37.5°C, pulse rate 100/minute, blood pressure 119/63 mmHg and respiratory rate 28/minute. The lower abdomen was tender on palpation without guarding. Excitation tenderness of the cervix was present on vaginal examination, but the cervix itself was closed and of normal size. The adnexae were moderately tender on both sides.

An ultrasound examination revealed a normal cervix without other pathology in the pelvis. Analysis of her blood gases revealed a mild respiratory alkalosis with the carbon dioxide pressure (pCO₂) 26 mmHg, oxygen pressure (pO₂) 95 mmHg and pH 7.5. Her haemoglobin value was 10.6 g/dl with a leucocytosis of 14.9 × 10⁹/l. The human chorionic gonadotropin (HCG) level had decreased from 39 to less than 10 mIU/l.

The patient was admitted with the clinical diagnosis of pelvic inflammatory disease (PID) and treated with clindamycin intravenously. The next day she improved significantly and on the second day she was discharged from hospital on oral clindamycin.

Discussion

There are different treatment options when a cervical pregnancy is diagnosed. Surgical evacuation is no longer the first line of treatment since it is impossible to remove the trophoblast completely. Medical treatment with methotrexate is the current first option in the management of a cervical pregnancy, with a 94% success rate.⁵ An important contraindication is acute haemorrhage which is present in about 30% of cases.⁶ The remaining treatment options include abdominal hysterectomy, endocervical tamponade and uterine artery embolisation. Although embolisation results in acute hypoxia of the uterus, collateral blood supplies will restore normal blood flow within 5 - 6 weeks. Due to the hypoxia, methotrexate should be given before embolisation if the two methods are applied together.

Methotrexate is not the ideal first line treatment in HIV-positive patients as it suppresses immunity in patients who are already immune compromised. Our patient, with a normal CD4 count of 530 × 10⁹/l, received methotrexate before her HIV status was known and she developed pelvic inflammatory disease afterwards. Owing to the risk of infection, immunosuppressants should be limited in patients with a CD4 count of more than 200 × 10⁹/l.

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