Successfuly Avoiding Surgery in an Ectopic Cervical Pregnanty

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Abstract

The uterine cervix is a rare implantation site for ectopic pregnancy, surgical management should be carefully considered due to the risk of severe hemorrhage associated with this treatment. Methotrexate (MTX) is well documented as an effective medical approach in early gestations and low human chorionic gonadotropin (ß-hCG) levels yielding good results. This is the case, of a 39 year old woman with a 6.5 week old cervical pregnancy. Diagnosis was suspected and later confirmed due to the presence of a late, vaginal hemorrhage and pelvic pain, blood quantitative ß-hCG quantification, clinical exploration and ultrasonographic evaluation. Since the patient was hemodynamically stable and had concerns with her fertility we opted for a medical treatment with MTX in a multiple dose regimen. Treatment was successful after 3 doses (62.5 mg. each, IV infusion), applied on days 1, 3 and 5, using leucovorin (1 g) on alternate days as rescue therapy. Initial ß-hCG levels were reported at 211 mIU/mL, by the time the patient was discharged she had a 77.5% decrease on the ß-hCG levels and diminished symptomatology, after two months follow-up, ß-hCG levels were 0 mIU/mL. Medical management successfully eliminated cervical pregnancy, thus avoiding the risks any invasive procedures may pose.

Keywords: Ectopic; Cervical; Methotrexate; MTX; Pregnancy; ß-hCG; Fertility

Introduction

Ectopic pregnancy constitutes a rare medical emergency (1 in 9000-10,000 pregnancies) due to rupture risk and subsequent hemorrhage [1,2]. In many cases, hysterectomy was one of the preferred treatment options for cervical pregnancies [1,2] with major drawbacks being: high morbidity associated with this procedure and ending a woman’s reproductive capability. Currently, conservative (medical) management techniques are favored over surgical options, mainly due to the uncontrollable hemorrhage any invasive procedure may ensue and end in a hysterectomy, with all the complications associated with it. Medical treatments consist on the systemic or local use of methotrexate (MTX), with various dose regimens, alone or in combination with intracardiac-embryonic injection of potassium chloride [3,4]. Clinical parameters must be assessed in order to proceed with this conservative treatment.

Case Presentation

A 39, year old native Mexican (Otomi origin) with no previous surgical or obstetric history, positive for alcohol consumption and smoking, arrives to our unit referring 4 days with pelvic pain and vaginal bleeding and a 6.5, week delay on her periods. Upon physical exploration we found a BMI of 23 kg/m2, slightly increased heart rate (90 bpm) with normal blood pressure and normal Glasgow evaluation, a generalized pain was observed on lower abdomen and pelvis, increased upon palpation and leg flexion. Speculocscopy increased increased pelvic pain and revealed an active trans-cervical bleeding. Cervix was erythematous and swollen. Laboratory tests were performed, including complete blood count (CBC), coagulation tests, urinalysis, blood ß-hCG and a pelvic transvaginal ultrasound. CBC reported normal hemoglobin (13.5 g/dL), hematocrit (40.5%), leucocytes (8.5 x 10^3 µL) and platelets (234,000). Urinalysis had no significant findings except for the presence of erythrocytes that were most probably present due to sample contamination. ß-hCG was 211 mIU/mL and pelvic sonogram confirmed the presence of a gestational sac below de interior cervical ostium, within the cervical main structure and positive vascular activity around the gestational sac (Doppler evaluation, (Figures 1 and 2). A 6.5 week old cervical pregnancy was diagnosed with a controlled vaginal bleeding, hence, medical treatment protocol was initiated due to patient’s hemodynamic stability, low ß-hCG levels and patient’s desire for fertility preservation.

Once the patient was admitted basal further laboratory parameters were obtained (CBC, blood chemistry screen, liver enzymes (alanine aminotransferase (ALT), aspartate aminotransferase (AST)), bilirubin levels, total proteins, albumin, blood clotting tests, blood type and Rh identification. MTX dose was calculated at 1 mg per kilogram, body weight (62.5 mg), doses were given on days 1,3 and 5, alternating with

Figure 1: Vaginal sonogram showing uterine corpus and cervix, where a gestational sac is identified in the latter.
The anatomic site and complications associated to it, award special implantation sites, they roughly represent 1% overall ectopic pregnancies (pregnancies), even when considering the most common extrauterine publication of this case. ß-hCG level determinations. Patient provided written consent for the and is being followed (until 6 months after discharge) with MTX and totally asymptomatic, she opted for a barrier contraception method complete absence of ß-hCG by day 60 (not reported in Table 1) and could be seen. Follow-up, through outpatient consultation revealed no evidence of a gestational sac. We believe this is a case where all conditions were met for a successful medical treatment that generated by folic acid, therefore, folinic acid (leucovorin) is administered on alternate days to diminish side effects as nausea, abdominal pain, neutropenia, liver function and bone marrow effects [12,13]. Our case had optimal conditions for MTX treatment since there was no hemodynamic compromise, no evidence of yolk sac, no fetal cardiac activity and ß-hCG levels of 211 IU/mL (below 5000 IU/mL).

Serical ß-hCG level determinations were performed on the 3 days of MTX administration, afterwards determinations were performed to see a gradual decrease. Leucovorin was administered on days 2,4 and 6 (not shown).

<table>
<thead>
<tr>
<th>Day according to first MTX dose</th>
<th>Seric ß- hGC levels (mIU/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (62.5 mg of MTX was administered)</td>
<td>211</td>
</tr>
<tr>
<td>3 (62.5 mg of MTX was administered)</td>
<td>133</td>
</tr>
<tr>
<td>5 (62.5 mg of MTX was administered)</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>68</td>
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<td>7</td>
<td>48</td>
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<td>18</td>
<td>4</td>
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<td>24</td>
<td>1</td>
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Table 1: ß-hCG level determinations on specific day of treatment. 1 g of leucovorin on days 2,4 and 6 (rescue therapy). Laboratory follow up was performed with blood ß-hCG and methotrexate levels (Table 1).

MTX serical levels were always reported under 0.1 µmol/L, while ß-hCG dropped from 211 mIU/mL on day 1 to 7 mIU/mL on day 5, vaginal bleeding and pelvic pain were significantly reduced. By day 6, levels slightly increased to 68 mIU/mL, only after the last chemotherapy administration a significant decrease was observed, reaching 1 mIU/mL by day 24. The patient was discharged on day 7, after vaginal bleeding and pelvic pain had disappeared. The only complaints associated to chemotherapy were headache that was treated with ibuprofen (200 mg t.i.d.). By day 18, no ultrasonographic image of a gestational sac could be seen. Follow-up, through outpatient consultation revealed complete absence of ß-hCG by day 60 (not reported in Table 1) and totally asymptomatic, she opted for a barrier contraception method and is being followed (until 6 months after discharge) with MTX and ß-hCG level determinations. Patient provided written consent for the publication of this case.

Discussion

Cervical ectopic pregnancies have a low incidence (1 in 9,000 - 10,000 pregnancies), even when considering the most common extrauterine implantaion sites, they roughly represent 1% overall ectopic pregnancies [2,3]. The anatomic site and complications associated to it, award special considerations due to significant hemorrhage risk.
and retaining the patient’s fertility. Follow-up on MTX levels should be done for at least 6 months. Patients with similar characteristics should be offered this treatment prior to invasive procedures.

References


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