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Case Report

Medical Management of Ectopic Pregnancy: A Case Report from Ile-ife, Nigeria

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ABSTRACT

Medical management of ectopic pregnancy using intramuscular methotrexate is a well-known, highly effective and noninvasive option of treatment of unruptured ectopic pregnancy. Its role is expanding worldwide due to the increased incidence of ectopic pregnancy and improvement in early diagnosis with the aid of beta-hCG assay and transvaginal ultrasound scan. With the advent of assisted reproductive techniques and improved diagnosis of unruptured ectopic pregnancy in Nigeria, the role of medical management of ectopic pregnancy in the country is likely to increase.We present a 38-year-old primipara with an unruptured right tubal ectopic pregnancy who fulfilled the eligibility criteria for medical management. She had single dose intramuscular methotrexate but required a second dose due to suboptimal fall in hCG levels between days 4 and 7. She tolerated both doses well and her hCG had become undetectable by the fifth week.

Keywords: Ectopic, methotrexate, medical management, pregnancy, Nigeria

Introduction

Ectopic pregnancy, which is the implantation of a fertilized ovum in any site other than the uterine endometrium, is known to be a great masquerader, and a significant contributor to maternal morbidity and mortality, especially when it ruptures acutely without early recognition and urgent intervention. The incidence of ectopic pregnancy has been on the increase globally, due mainly to the growth and expansion of assisted reproductive techniques such as in vitro fertilization and embryo transfer.[1,2] Fortunately, however, the case fatality rate of ectopic pregnancy has been on the decline, principally as a result of increasingly early diagnosis, which is made possible by the availability of quantitative serum beta-hCG assay and transvaginal ultrasound scan.[1,2]

We present a case of unruptured tubal ectopic pregnancy which was successfully managed medically at the Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria.

Case report

A 38-year-old primipara with one living child presented to our gynaecology clinic with an eight-week history of amenorrhea and one-week history of spotting per vaginam. She had a positive urine pregnancy test. Her physical examination findings at presentation were unremarkable. Her trans-vaginal ultrasound scan revealed an empty uterus with an endometrial thickness of 4.9mm, and in the right adnexum - a 13.1mm gestational sac corresponding to 5weeks and 6days gestation, with a fetal pole,but no detectable cardiac activity. There was no free fluid in the pouch of Douglas or the Morrison's pouch. Her quantitative serum beta-hCG level was 1,888mIU/mL.Based on these findings, a diagnosis of unruptured right tubal ectopic pregnancy was made and this was explained to her. She was considered eligible for medical management and offered same, to which she gave informed consent. Laparoscopic surgery was also discussed with her as an available alternative treatment. Pre-treatment, she had full blood count, liver and renal function tests, and urinalysis, all of which were normal. She was then given 100mg of methotrexate intramuscularly, calculated based on her body surface area (50mg/m^2). Her serum beta-hCGassays were repeated on days 4 and 7, and they measured 504mIU/mL and 468mIU/mL respectively. This represented a decline of 7.1% between day-4 and day-7, which was well short of the minimum desired decline of 15%. She was therefore offered a second dose of methotrexate to which she consented. She received the second dose of 100mg intramuscular methotrexate, followed by weekly serum beta-hCG assays. Her serum beta-hCG dropped to 327mIU/mL after the first week, 67 mIU/mL after the second week,and had become undetectable by the fifth week. Apart from mild lower abdominal cramps which she had after the first dose and mild scalp tenderness which she reported after the second dose of methotrexate, the treatment was very well tolerated. She was placed on barrier contraception for three months after treatment.

Discussion

There is currently a paucity of published literatures reporting successful medical management of ectopic pregnancy in Nigeria. Indeed, ectopic pregnancies in the country were mostly diagnosed after acute rupture(60.5%), or occasionally when they had become chronic slow leaking (28.6%), and rarely while still unruptured (8.4%).[3,4] With the increasing availability of beta-hCG assay and transvaginal ultrasound scan, the detection rate of unruptured ectopic pregnancy in Nigeria has probably increased. In these cases (unruptured ectopic pregnancy) medical management is a most favoured option, because it is highly effective and non-invasive.[1] Medicalmanagementhowever requires the following criteria to be fulfilled: (1) haemodynamically stable (2) adnexal mass smaller than 35mm with (3) no visible cardiac activity, (4) serum beta-hCG level less than 1,500 IU/L, (5) no intrauterine pregnancy (6) ability to return for follow-up, and (7) no known allergy to methotrexate.[1,5]

In the case presented, our patient fulfilled all the eligibility criteria for medical management of ectopic pregnancy except for her beta-hCG which was above the 1500mIU/mL ideal cut off, at presentation. However, her beta-hCG level was still below 5000mIU/mL which is considered the absolute level above which medical management is contraindicated; hence, she was still offered medical management.[1] Notwithstanding, she was counselled about alternatives to medical management, including laparoscopic surgery, which was also available at our centre.[6] She opted for medical management because of its non-invasive nature and the fact that its outcomes were comparable to laparoscopic surgery.[1,5] Great care was further taken to rule out any coexisting intrauterine pregnancy (heterotopic pregnancy) which would have been a contraindication to medical management and necessitated laparo-scopic surgery.[7]

Administration of systemic methotrexate as a single dose intramuscular injection of 50mg/m2 is the recommended standard for medical management of ectopic pregnancy.[1,5] It is usually

well tolerated, but its possible serious adverse effects include marrow suppression, pulmonary fibrosis, nonspecific pneumonitis, liver cirrhosis, renal failure and gastric ulceration. These are fortunately rare. The most common adverse effects of methotrexate include bloating, flatulence, transient mild elevation in liver enzymes and stomatitis.[1,5] All these were explained to our patient and she was also counseled to avoid sunlight, alcohol and non-steroidal anti-inflammatory drugs (NSAIDs) while on treatment, as alcohol and NSAIDs would exacerbate methotrexate toxicity and methotrexate may make her skin more sensitive to sunlight.

The single dose regimen of methotrexate has a 65-95% success rate for tubal ectopic pregnancy, while 3-27% of the women will require a second dose of methotrexate. After single dose methotrexate, beta-hCG assays should be repeated on day-4 and day-7, and then weekly until undetectable.[5,8] A decline of 15% or more in the day-7 compared to day-4 beta-hCG levels indicates good response. If, however, there is a less than 15% decrease in beta-hCG level between day-4 and day-7, as was the case in our patient, then a second dose of intramuscular methotrexate should be considered.[8,9] Our patient had a second dose of methotrexate and herbeta-hCG levels subsequently declined until they became undetectable by the fifth week. Also, methotrexate is teratogenic. Therefore, effective contraception should be used for 3-6 months following methotrexate treatment. Our patient was placed on barrier contraception.

In conclusion, medical management of ectopic pregnancy should be considered and appropriately offered to women who meet the eligibility criteria in Nigeria.

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