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(CASE REPORT)

Medical /Non-surgical Management of Ectopic Pregnancy: Case Report and Review of Literature

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Abstract

Ectopic pregnancy is a cause of maternal morbidity and mortality. Management options are surgical, medical and expectant management. Medical management also known as the non-surgical approach is not widely practiced in our environment despite its several advantages over the traditional open salpingectomy including its less invasiveness, reduced cost and absence of anaesthetic risk, surgical risk and need for hospital admission. It however requires early presentation and diagnosis before tubal rupture, a well-motivated patient and fulfilment of strict criteria in well selected patients.

Aim. To present this rare case report of the medical/non-surgical management of unruptured ectopic pregnancy and a review of the literature.

Case report: Mrs AW, Para 3^{+0} (2 alive) who presented with lower abdominal pains and abnormal scanty vaginal bleeding following 6 weeks of amenorrhoea.

Her physical examination revealed a stable cardiovascular state. There were no significant abdominal findings. Vaginal examination revealed positive cervical motion tenderness. A diagnosis unruptured ectopic pregnancy was made.

Pelvic ultrasound scan revealed a cystic left adnexial mass measuring 1.94 cm by 1.7 cm with thickened, well circumscribed margins and it contained an echogenic mass (fetal pole) with cardiac pulsation (145/min). The crown-rump length was 0.76cm which corresponded to 6 weeks plus 5 days of gestation. Her serum β hCG was 3625.8miu/ml.

She expressed her aversion for a surgical intervention having had 3 previous surgeries. She gave an informed consent for medical/non-surgical management with intramuscular Methotrexate. She subsequently received 3 doses of weekly 100mg intramuscular methotrexate. Each dose of Methotrexate was preceded by re-evaluation of liver/renal function test, full blood count and serum β hCG. By the 4^{th} week of treatment the success of her treatment was confirmed by the insignificant level of β hCG and findings at TVS. She was counselled on the need for prompt localization of any subsequent pregnancy.

Conclusion: We presented Mrs AW who was successfully managed for unruptured ectopic pregnancy using the medical/non-surgical approach on out-patient basis. Proper patient selection and follow-up is required for a favourable outcome,

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Keywords: Medical/Non-Surgical; Management; Unruptured; Ectopic; Pregnancy.

1 Introduction

Ectopic pregnancy is a cause of maternal morbidity and mortality. [1] The incidence is on the increase probably due to increasing cases tubal damage from poorly treated pelvic inflammatory diseases. [1,2] Early diagnosis and treatment remains the option in reducing morbidity and mortality. [3-4,5-8] A high index of suspicion is important as the presentation may not be with the typical six weeks amenorrhoea with abdominal pain and/or vaginal bleeding. [1,5]

Management options are surgical, medical and expectant management. [1,9] The main stay of treatment in our environment and most developing nations is the surgical management typically the open salpingectomy with its attendant disadvantages including anaesthetic and surgical risks as well as family disruption from prolonged hospital stay and income loses.[2-4,9-10] Laparoscopic salgingectomy reduces morbidity and hospital stay but the skill and facilities for it are not readily available and its high cost were available puts it out of reach of the average patient.[1-4] Medical management also known as the non-surgical approach is not widely practiced in our environment despite its several advantages over the traditional open salpingectomy including its less invasiveness, reduced cost and absence of anaesthetic risk, surgical risk and need for hospital admission.[2-5,11-12] It however requires early presentation and diagnosis before tubal rupture in addition well motivated patients who must fulfil the required strict criteria after proper patient selection.[1-3]

We present a case of successful medical management of a tubal ectopic pregnancy in a patient with a strong aversion for surgical intervention after 3 previous surgeries with a turbulent post-operative period in her last surgery.

2 Case report

Mrs AW was a 26 year old house wife, Para 3^{+0} (2 alive) who presented to our gynaecology clinic on 13/4/2022 with a one week history of lower abdominal pains and scanty menstrual flow 2 weeks earlier. The lower abdominal pain was intermittent, non-radiating and relieved by oral paracetamol. There was associated weakness but no dizziness or fainting spells. She presented to the clinic when oral paracetamol could no longer relieve her symptoms. Her last confinement was in 2019. The pregnancy was uneventful and carried to term. Delivery was by elective repeat Caesarean Section for 2 previous Caesarean Sections at term. Delivery was complicated by dense peritoneal adhesions. The baby was a macrosomic baby who suffered an early neonatal death in the Special Care Baby Unit. Her previous 2 confinements were both by Caesarean Sections for cephalo-pelvic disproportion and short inter-pregnancy interval respectively with good fetal outcomes.

Her last normal menstrual period was 6 weeks earlier followed by 2 days of scanty bleeding per vaginam 2 weeks prior to presentation. She had no prior menstrual abnormalities and practiced the withdrawal method for contraception. She was a known asthmatic with good control. At presentation, she was a morbidly obese lady weighing 130kg with a BMI of 50 Kg/m^2. She was not pale, afebrile, anicteric with no pedal oedema. Her pulse rate was 70b/min and her blood pressure was 110/80mmHg. Her heart sounds were normal. Her abdomen was full, moved with respiration with mild left iliac/suprapubic tenderness. There was rebound tenderness in the left iliac fossa. Her liver and spleen were not palpable while her kidneys were no ballotable. There was no demonstrable free peritoneal fluid. Vaginal examination revealed no active bleeding. The vulva and vagina were normal. The uterus was slightly bulky, her cervix was posterior and soft with moderate cervical motion tenderness. Her cervical os was closed and the pouch of Douglas was empty. A pelvic ultrasound scan revealed a cystic left adnexial mass measuring 1.94 cm by 1.7 cm with thickened, well circumscribed margins and it contained an echogenic mass (fetal pole) with cardiac pulsation (145/min). The crown-rump length was 0.76cm which corresponded to 6 weeks plus 5 days of gestation. Her serum β hCG was 3625.8miu/ml. Her blood group was 'O' Rh D positive and full blood count revealed lymphocytosis and a haemoglobin of 10.8g/dl. Her liver/renal function tests were within normal limits.

The diagnosis of un-ruptured left ectopic gestation and the treatment options/prognosis were explained to her. She expressed her aversion for a surgical intervention having had 3 previous surgeries. She gave an informed consent for non-surgical management with intramuscular Methotrexate. The possibility of treatment failure was explained to her and she was adequately counselled on the need to immediately report worsening abdominal pain, vaginal bleeding, dizziness or fainting spells. She was to avoid sexual intercourse and folic acid during the treatment. She subsequently received 3 doses of weekly 100mg intramuscular methotrexate. Each dose of Methotrexate was preceded by re-evaluation of liver/renal function test, full blood count and serum β hCG. Her full blood count and liver/renal function tests remained essentially the same while her serum β hCG showed a steady decline to 3110 miu/ml and 230.4miu/ml

by week 1 and week 2 respectively. She complained of severe lower abdominal pains after the 3rd dose of Methotrexate. A trans-vaginal ultrasound scan revealed a 3 by 3 cm left adnexial mass with a tiny echogenic component but no cardiac pulsation . There was no fluid in the Pouch of Douglas. She was reassured and placed on paracetamol tablets and continued on weekly β hCG assay. By the 4th week her serum β hCG was 9.4miu/ml. She was informed of the success of the treatment and counselled on the need for prompt localization of any subsequent pregnancy

3 Discussion

Our patient Mrs. AW was successfully treated for unruptured ectopic pregnancy using the medical/non-surgical approach. There are three (3) different approaches to the treatment of ectopic pregnancy: Medical, Surgical and Expectant management.[1-2]

Surgical management is the mainstay of treatment in developing countries like ours with its attendant effect of prolonged hospital stay, family disruption, increased cost as well as the attendant surgical and anaesthetic risks.[3-5] The gradual introduction of laparoscopic surgeries has significantly reduced hospital stay but it remains very expensive and the skill/equipment for laparoscopy are not widely available in the developing countries.[6-8] Surgical management, which is the preferred option for ruptured ectopic pregnancy, remains high in our environment because of late presentations, delayed diagnosis and lack of experience with medical management.[1-4] Majority of patients will present with a ruptured sac although this is changing with increasing availability and expertise in sonography.[1-3,9-12] An alternative to reduce hospital stay (with less family disruption), reduce cost as well as eliminate surgical and anaesthetic risks in medical management which is applicable only to unruptured ectopic gestation like our patients presentation.[2-5]

Medical management for ectopic pregnancy has been carried out with various agents including Methotrexate, Actinomycin D, hypertonic saline and potassium chloride with different success rates.[4-8] Methotraxate is commonly used because it is inexpensive, less invasive and can be administered on outpatient basis. [9-10] Methotraxate is administered either as a single dose regimen capped at 100mg or as a multi-dose regimen as was done in our case. The multidose regimen is preferable in obese patients like ours.[1-3]

There are recommended criteria to be met for the usage of methotrexate in the management of ectopic pregnancy. [1,3,8-10]These include a clinically stable patient with unruptured ectopic pregnancy, haemodynamically stable and well motivated patients.[1-3] Our patient met these criteria. However, medical management should be contraindicated if the ectopic pregnancy is ruptured and in heterotropic pregnancies where there is a simultaneous presence of an intrauterine pregnancy (IUP).[2-6] In medical management of ectopic pregnancy, patient monitoring and follow up is key to prevent morbidity and mortalities hence the patient should be well motivated and properly counseled including the possibility of failure of the treatment modality. [8-10] Our patient had all these explained to her. Further, the patient should be counselled on symptoms of treatment failure. These include; worsening abdominal pain, vaginal bleeding, dizziness and fainting spells.[2-6] This was also explained to our patient. It should be noted that worsening lower abdominal pain in the course on medical treatment is a common presentation as was the case with our patient. It rarely means tubal rupture although this must be immediately excluded with a TVS. The cause is unknown but postulations include tubal stretch from haematoma and tubal abortion. [3-4] Patient reassurance and analgesia will suffice as in our patient even though she expressed a lot of concern initially. In addition, the patient on medical treatment with methotrexate should avoid sexual intercourse and intake of folic acid as this may interfere with the treatment modality and increase the chances of failure.[3-6]

The work up plan entails a full blood count, to have a baseline packed cell volume, white blood cell count and differential to rule out infections; liver function test since the liver plays a significant role in the metabolism of methotrexate; a kidney function test as anaemia may affect the kidneys. [4-6] A baseline β hCG is very important as this plays a significant role in the prognosis and subsequent monitoring of the treatment outcome.[6-8] All these were done for our patient. Furthermore, a serial ultrasound scan is important to follow-up the gestational sac to detect any early signs of rupture.[9-12] Our patient Mrs. AW had 3 courses of 100mg of intra-muscular methotrexate; all her parameters remained normal; her β hCG progressively declined and by the 4th week the value was 9.4mIU/ml indicating that the treatment was successful. For our patient all the above stated parameters remained normal during the course of treatment. This prompted her referral to family planning clinic and counselled on the need for prompt localization of any subsequent pregnancy.

4 Conclusion

We presented Mrs AW, an obese patient with high surgical risk, who was successfully managed for unruptured ectopic pregnancy using the medical/non-surgical approach with multi-dose methotrexate on out-patient basis. Proper patient selection and follow-up is required for a favourable outcome in this alternative to the traditional open salpingectomy.

Compliance with ethical standards

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Disclosure of conflict of interest

No conflict of interest to be disclosed.

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