ECTOPIC PREGNANCY;
MEDICAL MANAGEMENT

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ABSTRACT... Objectives: To assess the effectiveness of systemic methotrexate for treatment of unruptured ectopic pregnancy. **Introduction:** Ectopic Pregnancy is pregnancy that occurs in any location other than the uterus. 95% to 98% are tubal ectopics, but the number of ovarian, abdominal and cervical implantations is rising as does the number of heterotopic pregnancies. **Study Design:** Prospective experimental study. **Setting:** DHQ Hospital affiliated with Punjab Medical College Faisalabad. **Period:** Jan-2009 to Dec-2009. **Patient & Method:** A total of 45 women were admitted with diagnosis of extrauterine pregnancy. But only 10 women fulfilled the criteria for medical management. Out of these 80% patients required no surgical intervention. However 20% needed surgery. 60% patients suffered from lower abdominal or pelvic pain. 20% required 2nd dose of methotrexate. Average ß-hCG resolution time was 35 days. **Conclusions:** With early diagnosis and proper selection criteria adoption, medical treatment of ectopic pregnancy with systemic methotrexate is an effective and safe alternative to surgical interventions.

Key words: ß-hCG , Ectopic Pregnancy

INTRODUCTION

Ectopic Pregnancy is that occurs in any location other than the uterus. 95% to 98% are tubal ectopics[1,2] but the number of ovarian, abdominal and cervical implantations rises as does the number of heterotopic pregnancies (those with co-existent gestation in utero and elsewhere). It complicates around 1% of all pregnancies (10.9-11.1/1000 pregnancies)[3]. More than four-fold increase has been seen in last 20 years. Increased incidence is proportionate to higher rates of sexually-transmitted disease, increased availability of assisted conception techniques and advancements in diagnostic modalities. Ectopic pregnancy is potentially fatal disease process accounting for 0.5-0.6 per 100,000 maternities[3].This is obviously disappointing particularly as 70% of deaths related to ectopic pregnancy in the last confidential enquiry were associated with substandard care. (2003-2005 report fron CEMACH). Advancement in the use of obstetrical ultrasonography especially TVS, increased sensitivity of serum ß-hCG immunoassay measurement has helped to achieve early detection of ectopic gestation. It has also decreased incidence of laparoscopy to diagnose ectopic gestation. These diagnostic modalities have catapulated the management of ectopic pregnancy into a new era of medical treatment. The old axiom “to cut is to cure” is no longer true in all cases of ectopic pregnancy. Early detection of un-ruptured tubal pregnancy has led to less invasive and non surgical methods of treatment (medical management). Different modalities are being used in medical management like Ru-486, prostaglandin, KCL (Potassium chloride) and actinomycin-D. Methotrexate emerged as the drug of choice for this purpose.

MATERIAL AND METHOD

This is a prospective experimental study conducted at DHQ Hospital, Faisalabad affiliated with PMC between Jan-Dec-2009.

During this period total 45 patients were admitted with diagnosis of ectpoic pregnancy and out of them only 10 fulfilled inclusion criteria for medical management with stable hemodynamics without active bleeding or evidence of hemoperitonium, unruptured sac, no evidence of embryonic cardiac activity, maternal serum ß-hCG less than 3000 IU/ml, patients compliance with regular follow up visits to hospital and no contraindication to methotrexate use.
Patients not fulfilling these criteria were excluded from study.

Blood grouping and Rh factor was performed on all patients and those who were Rh-ve were given Rh-immunoglobins.

All patients received a single 1/M inj. of 50mg/m^2 of body

surface area of methotrexate, and then discharged home. Every patient was counselled to report early if abdominal pain occurred. They were reviewed at 4th and 7th day on outpatient basis and asked for abdominal pain and ß-hCG CBC, hepatic and renal function test were performed.

A repeat dose is given if < 15% decline of ß-hCG between day 4 and 7 or < 50% at 2 weeks, otherwise ß-hCG followed till it become <10 IU/ml. Patients were admitted if there was increasing abdominal pain or hemodynamic instability or ß-hCG remained elevated above set value at 2 week after 1st dose.

- Primary outcome measure was absence of indication for surgical intervention irrespective of no. of injections.
- Secondary outcome measure were absence of pelvic pain following injection, no need of repeat dose of methotraxate, maximum time for optimization of ß-hCG to <10 IU/ml.
- All observations were recorded on proforma designed for this purpose.
- SPSS version 10 was used for data analysis.
- Mean and S.D were determined for age and parity
- Percentage were determined for no. of patients requiring surgery, having abdominal pain, requiring 2nd dose of Methotrexate, average time of optimization of ß-hCG was also determined.

RESULT

Total deliveries in 2009 (between 1st Jan-31Dec) were 6449. Out of which 45 were ectopic pregnancies. This gives frequency of ectopic pregnancy as 0.7% in our paplulation. Only 10 out of 45 (22.2%) fulfilled criteria for medical management.

Mean age of this selected population was 25.3 year and mean of parity was 2.3 as in Table-I.

Overall success rate of medical treatment (those not requiring surgery) was 80% (8/10). Abdominal or pelvic pain was observed in 60% (6/10) patients but only 20% (2/10) required surgery and surgical intervention were due to pain and suspected rupture.

Only 20% (2/10) needed 2nd dose of Methotrexate. Table-II

Average time for optimization of ß-hCG was found to be 35 days (in 62.5%,(5/8)) who were given Methotrexate as medical management of ß-hCG . Table-III

Table-I. Distribution of study subjects with respect to age and parity

	Minimum	Max.	Mean	S.D
Age	17	35	25.3	5.67
Parity	01	05	2.3	1.42

Table-II. Result of outcome measures

Outcome measure	Yes	No
Need for surgery	20% (2/10)	30% 3/10
Pelvic or abdominal pain	60% (6/10)	40% 4/10
Need for 2nd dose of MTX	20% (2/10)	80% 8/10

Table-III. Time for optimization of β-hCG on subsequent follow up

Day of follow up	%age patient with β-hCG <10 IU/L
20	-
28	1 (12.5%)
35	5 (62.5%)
42	2 (25%)

DISCUSSION

Management of ectopic pregnancy has undergone revolution in recent years after the introduction of less invasive techniques including medical agents like Methotrexate, potassium chloride, hyperosmolar glucose etc and Laproscopy.

Appropriate selection of patients is an important factor in success of medical management. In our study only (22.2%) fulfilled that criteria. This is in comparison with results of S.Vitlahal and colleague's study of Medical

management of Ectopic pregnancy using Methotrexate. In their study 32% meet criteria of medical management[9]. This is because of late presentation of patients in our setup.

Our success rate was 80% (8/10) as only 2(2/10) patients neded surgery. Both patients were having severe pain due to ruptured ectopic. Stovl and Ling gave results of > 90% success rate with single dose of Methotrexate[10].

Success rate of 65.82% was given by Sowter and colleagues[11].

Pelvic and abdominal pain was observed in 60% (6/10) patients in our study. Similar results were observed by Med. et al[12]. In our study 20% patients needed 2nd injection of Methotrexate. Lipscomb & colleagues in their study also shown the same consequences[13].

Average time for resolution of ß-hCG in our study was 35days i.e. in 62.5% (5/8) patients. 25% patients (2/8) had ß-hCG < 10 IU/L in 42 days and 12.2% (1/8) in 28 days. Sirabalash & Chema gave average resolution time of 28 days[9]. and Lipscomb and colleagues had result of 35days[13].

CONCLUSIONS

The availability of newer and more sophisticated diagnostic tools allows ectopic pregnancy to be diagnosed early, before tubal rupture, without laparoscopy. The subsequent use of Methotrexate in selected women is effective, safe and attractive treatment option. It saves the patient from morbidity and mortality related to surgery. But patient motivation and use of diagnostic modalities is all that is required to inculcate it in our society.

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I don't know the key to success, but the key to failure is trying to please everybody.

Bill Cosby (1937 -)