

An Observational Study to Evaluate Efficacy of Methotrexate Single Dose for Medical Treatment of Etopic Pregnancy

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| Received: 26.11.2019 | Accepted: 02.12.2019 | Published: 06.12.2019

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Abstract

Original Research Article

Objective and AIM: Approximately 1% of pregnancy is comes under Ectopic pregnancy (EP) and pregnant women who is suffering from EP may seriously compromise their health. The main objective of this observational trial was to evaluate efficacy of methotrexate single dose for medical treatment of ectopic pregnancy. **Method and Material:** 80 patients treated with MTX therapy (single dose protocol 50 mg/kg, Intra muscularly) who were with ectopic pregnancy for this observational study conducted in a tertiary care teaching hospital at Katihar, Bihar. On the 4th day of MTX administration decline of plasma human chorionic gonadotropin < 15%, need to additional dose of MTX, mean of primary β -hCG level, presence of free fluid in culdesac, mean of gestational and maternal age, length of hospitalization and mean of ectopic mass size was evaluated. SPSS software version 13 were used to analyse the data. **Result:** 62% was the success rate, 535.49 \pm 618.36 MIU/ml was mean of primary β -hCG level, 22.89% of total patients were need to additional dose, 22.1% was needed further surgery, in 24% of patients free fluid was observed, 6.38% days were mean hospitalization days, 29.32 years was the mean of maternal age, 8.36 \pm 1.78 weeks was mean of gestational age and 2.39 \pm 0.84 cm was the mean of ectopic mass size. **Conclusion:** Treatment with single dose MTX tends to be successful options in women with an ectopic pregnancy

Keywords: Ectopic tubal pregnancy, Methotrexate, Tertiary care teaching hospital.

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INTRODUCTION

When fertilize ovum implants outside the uterine cavity then ectopic pregnancy occurs. Per 100 pregnancies 0.5 is the chance of ectopic pregnancy [1, 2]. In previous days no other option lefe rather than surgery for the pregnant women with ectopic pregnancy. After the evidence rises in favoure of Methotrexate (MTX) use during pregnancy the selectiv use of the drug become viable alternative to surgical treatment [3]. Methotrexate disrupts cell proliferation interferes with DNA synthesis which is the main reason for its anti-metabolite action [4, 5]. Including eliminating morbidity from surgery, less cost, potentially less tubal damage and General Anesthesia is number of reasons for medical therapy has advantage over surgical therapy. Chance for future healthy pregnancies can help preserve successful medical treatment with methotrexate [6].

The main objective of this observational trial was to evaluate efficacy of methotrexate single dose for medical treatment of ectopic pregnancy.

METHOD AND MATERIAL

80 patients treated with MTX therapy (single dose protocol 50 mg/kg , Intra muscularly) who were with ectopic pregnancy for this observational study conducted in a tertiary care teaching hospital at Katihar, Bihar. On the 4th day of MTX administration decline of plasma human chorionic gonadotropin < 15%, need to additional dose of MTX, mean of primary β -hCG level, presence of free fluid in culdesac, mean of gestational and maternal age, length of hospitalization and mean of ectopic mass size was evaluated. SPSS software version 13 were used to analyse the data.

Selection criteria of 80 patients was all patients were Hemodynamically stable, adnexal mass of less than 4 cm, serum beta hCG levels less than 5000 IU/L, patient in whom methotrexate is not contraindicated and less than 300 ml of free fluid in Pouch of Douglas. 1 mg/kg body weight was the calculated dose of methotrexate in these patients. On Day 4 & Day 7 of the Injection methotrexate transvaginal sonography and

serum beta hCG level were performed. Of the initial level on day 7, if serum beta hCG level increased or decreased less than 15% , second dose of injection methotrexate was given. For tubal rupture or tubal abortion, surgical intervention was done.

RESULT

62% was the success rate, 535.49 ± 618.36 MIU/ml was mean of primary β -hCG level, 22.89% of total patients were need to additional dose, 22.1% was needed further surgery, in 24% of patients free fluid was observed, 6.38% days were mean hospitalization days, 29.32 years was the mean of maternal age, 8.36 ± 1.78 weeks was mean of gestational age and 2.39 ± 0.84 cm was the mean of ectopic mass size.

DISCUSSION

Our findings suggest that with single dose injection of methotrexate among patients with unruptured tubal pregnancy success rate of 62%. In the study by clara Merisio *et al.*, [7], single dose of MTX was higher success rate (90%) on 11 patients and similar to our study with success of treatment 10 lower β -hCG level had significantly relation. In the similar studies 73.3% reported success rate by Mehmet Erdem [8] and Soliman K.B [9] on 30 patients, while in our study the success rate was 62%.

With MTX medical treatment of EP is effective and safe in carefully selected cases [10]. In a patient to avoid surgery methotrexate treatment is beneficial but it requires extended follow-up of patients which can be cumbersome and difficult for some patients. To other part of the world ectopic pregnancy with systemic methotrexate in NMCH is comparable [11, 12]. The primary strength of the present study is the large number of patients available for the study as well as referral of nearly all ectopic patients to Imam Reza Teaching hospital for diagnosis and treatment. Limitations of this study include retrospective nature of the study and the inherent bias presented when the initial decision for management are based both on patients preference and physicians recommendations.

We concluded single dose of MTX for treatment of ectopic tubal pregnancy is successful in 64% of patients and initial β -hCG level and presence of free fluid in culdesac are strong predictors of success of

treatment .there was not any meaningful relation between ectopic mass size and success of treatment.

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