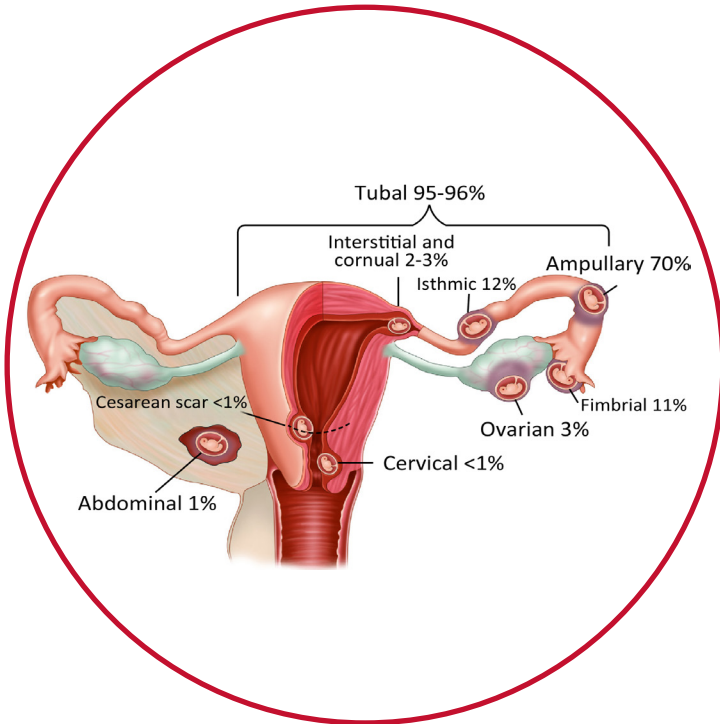


# MEDICAL MANAGEMENT OF ECTOPIC PREGNANCY



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## What is an Ectopic Pregnancy ?

Ectopic pregnancy (EP) is a pregnancy situated outside the uterine cavity (normal location). It is commonly found in the fallopian tube followed by other locations such as ovary and cervix. If undiagnosed, it can lead to rupture of the tube with internal bleeding and collapse.

Early diagnosis of EP is possible with the advent of high resolution ultrasound (scan) and judicious use of serial serum hCG levels (hCG is the pregnancy hormone) which in turn allow medical management in most cases. The choice of treatment should be guided by eligibility criteria and patient's choice after discussing risks and benefits. Methotrexate (MTX) is the drug administered as an injection for medical management of EP, sometimes in combination with mifepristone.

## Prerequisites for medical management

- Asymptomatic women with unruptured EP who are clinically stable, have normal baseline blood investigations (blood counts, liver and kidney function tests) and are willing for regular follow-up for 4–6 weeks, can be offered medical management.
- High serum hCG levels ( $> 3500$  mIU / ml), ectopic mass size  $> 3.5$  cm and / or presence of cardiac activity in EP are relative contraindications to medical management.
- It should not be offered to those with significant bleeding into the abdomen or those with a co-existing viable intrauterine pregnancy.

## Methotrexate administration

Two protocols are currently used for medical treatment of EP: “Single Dose” MTX therapy at a dose of  $50\text{mg}/\text{m}^2$  of body surface area and “Multidose” regimen consisting of  $1\text{mg} / \text{kg}$  of MTX alternating with  $0.1\text{mg} / \text{kg}$  of Leucovorin for upto 4 doses of each agent. Both regimens are found to be effective.

- MTX can be given on outpatient basis and intramuscular injection is the preferred route.

- Multidose regimen is preferred in women with high serum hCG levels or those with presence of cardiac activity on ultrasound.
- Further doses of MTX may be repeated depending upon the response to treatment.

### **Laparoscopy (surgical treatment) is indicated if:**

- Severe abdominal pain or signs suggestive of tubal rupture develop
- There is no satisfactory drop in serum hCG levels after MTX

**Anti D** – Regardless of method of treatment, Anti D injection should be given to all women with Rh negative blood group who have an EP.

### **Patient should be advised**

- To avoid sexual intercourse until Beta hCG is  $<10$  mIU / ml.
- To avoid pregnancy for three months after MTX injection, due to the theoretical risk of birth defects with MTX.
- To avoid sun exposure to limit risk of MTX dermatitis.
- To avoid foods and vitamins containing folic acid.

### **Post treatment management**

**Serum hCG** – Serial serum hCG levels need to be checked on days 4 and 7 after MTX. Usually, levels initially increase on day 4 and start to decrease by day 7.

- If there is  $>15\%$  decrease between days 4 and 7, weekly follow-up is advised until Beta hCG is  $<10$  mIU / mL.
- If  $<15\%$  decrease is noted by day 7, 2<sup>nd</sup> dose of MTX is advised.
- In multidose regimen, serum Beta hCG levels are checked every 48 hours till significant decrease is noted and weekly thereafter.

**Ultrasound** – It is generally not repeated except to evaluate severe pain or suspected rupture or for patients with cardiac activity in the EP.

After completion of treatment, an ultrasound is advised to check for resolution of the EP which may take upto 3 months at times.

## Efficacy

- Overall success of medical management is 88–90%.
- With single dose regimen around 14% of patients require a second dose and less than 1% of women require more than 2 doses of MTX.

## Side effects

### Drug related

Adverse reactions to MTX are usually mild and self-limited. Approximately 30% of patients in the single dose protocol may experience side effects such as mouth ulcers.

### Separation pain

Up to 75% of patients may complain of pain between days 2–7 after receiving the medication. This pain is usually mild and can be managed with paracetamol. Women with severe pain require further evaluation at hospital to rule out rupture of EP and need for surgery.

## Subsequent reproductive performance

- There is no evidence of adverse effects of MTX treatment on future pregnancies.
- Studies have shown a subsequent intra uterine pregnancy rate of 60–90%.
- The incidence of recurrent EP is approximately 7–15%.
- Women should be instructed to undergo an early ultrasound evaluation in subsequent pregnancies to confirm normal intrauterine location.