ECTOPIC PREGNANCY

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Abstract: Ectopic pregnancy is defined as implantation of a conceptus outside the normal uterine cavity. Abnormality in tubal morphology or function may lead to ectopic pregnancy. In normal pregnancy the egg is fertilized in fallopian tube and the embryo is transported into the uterus. The most important cause of ectopic pregnancy is damage to tubal mucosa which obstruct embryo transport due to scaring. Ectopic pregnancy present with triad of PV bleeding, Lower Abdominal Pain, Missed period. Ectopic pregnancy is manage according to is size and condition of the patients. Serial scanning and beta HCG levels are used to monitor response to treatment.

Key words: Ectopic Pregnancy, Methotraxate, Laproscopy.

Ectopic pregnancy is defined as implantation of a conceptus outside the normal uterine cavity.[1]

Prevalence

The incidence of ectopic pregnancy is increasing in undeveloped countries. The maternal mortality with ectopic pregnancy is 0.2/100.

Sites

The most common site for ectopic pregnancy are as following:
Tubal,
Abdominal,
Cervix,
C- Section scar

Hetrotrophic Pregnancy

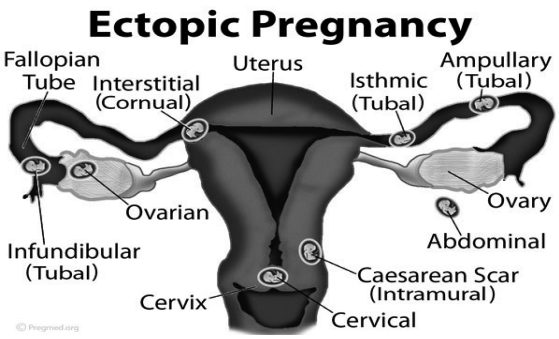
It is the combination of both intra and extra uterine pregnancy which can happen 1/100 (ART).

Pathophysiology

Abnormality in tubal morphology or function may lead to ectopic pregnancy.

In normal pregnancy the egg is fertilized in fallopian tube and the embryo is transported into the uterus.

The most important cause of ectopic pregnancy is damage to tubal mucosa which obstruct embryo transport due to scarring.[3]



Article Citation: Sharif N, Ectopic Pregnancy. Indep Rev Oct-Dec 2017;19(10-12): 221-226.

Date received: 01/10/2017
Date Accepted: 14/12/2017

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Risk Factors

The most important risk factors leading to ectopic pregnancy are

- Damage of Fallopian tube
- Surgery Tubal /Pelvic
- Infection
- Smoking
- Previous Ectopic
- ART, Ovulation induction
- Endometriosis induction
- Endometriosis
- Intra uterine exposure to diethylstilbestrol

Clinical Features

History

- Ectopic pregnancy present with triad of PV bleeding, Lower Abdominal Pain, Missed period.
- The patient will have amenorrhea of 6 wks or more.
- The history is short. Patient can have PVB, Spotting at time of expected periods.
- Patient suffers from lower abd pain mild severe fainting /syncopal attacks.

Occasionally ectopic pregnancy has accidental diagnosis on ultrasound scan.

Examination

Patient present with shock if ruptured ectopic.

On adominal examination there is tenderness rebound guarding, rigidity in lower abdomen on Vaginal examination the carvix motion tenderness adnexal tenders. adnexal mass.

Patient with rupture ectopic pregnancy usually presents in emergency with features of shock. If suspected ectopic avoid vaginal exam.

Differential diagnosis

Following condition must be differentiated prior to diagnosis of ectopic pregnancy.

- Pain and Bleeding in early pregnancy
- Miscarriage
- Molar pregnancy
- Early intra uterine pregnancy
- Ruptured corpus luteal cyst
- Degeneration of fibroid cericitis
- UTI
- Appendicitis
- Torsion of ovarian cyst / rupture musculoskeletion pain / adhesions

Complications

Ectopic pregnancy can lead to various complication such as

- Tubal rupture
- Risk related to surgery
- Infertility
- Pelvic adhesions
- Death of pt undiagnosed untreated rare
- Chronic ectopic
- Spontaneous tubal miscarriage (50%)

Assessment

After clinical examination following laboratory and radiological investigations will be required.

INVESTIGATION:

Urine pregnancy test

May be negative repeat UPT or serum B HCG

Serum HCG

It is positve in ectopic pregnancy its helps in diagnosis and follow up.

Transvaginal scan

The gold standard investigation for ectopic pregnancy is transvaginal scan.

Discriminatory Zone

All intra uterine pregnancy ought to visualize at 1000 of HCG.

Serum progesterone levels
Do not use in level for diagnosis (NICE)

TRANSVAGINAL SCAN

It is used to locate the gestational sac

- **Pregnancy of Unknown location**

Some times there is no evidence of intrauterine or extra uterine pregnancy or RPOCS. This happens in 8-31 % of early scans.

Ectopic pregnancy is diagnosed in 14-28% on repeated TVS (48 hrs).

- **Ectopic Pregnancy**

Ectopic Pregnancy can be diagnose by presence of adnexal mass, Free fluid in POD and absence of intrauterine pregnancy (IUP).

- **Intra Uterine Pregnancy**

When sac seen in uterine cavity. No mass in adnexa.

- **Management**

When Beta HCG level below discriminatory Repeat after 48 hours

- HCG level falling > 50%
- Failing pregnancy
- Repeat pregnancy test after 14 days if negative no further treatment.
- If positive repeat TVS
- (When beta HCG level lies between fall 50%- 63%) and no viable IUP on TVS repeated scan and persistent symptoms manage as ectopic pregnancy

Management options:

Ectopic pregnancy is manage according to is size and condition of the patients. Serial scanning and beta HCG levels are used to monitor response to treatment. Following approaches are suitable for certain patients.

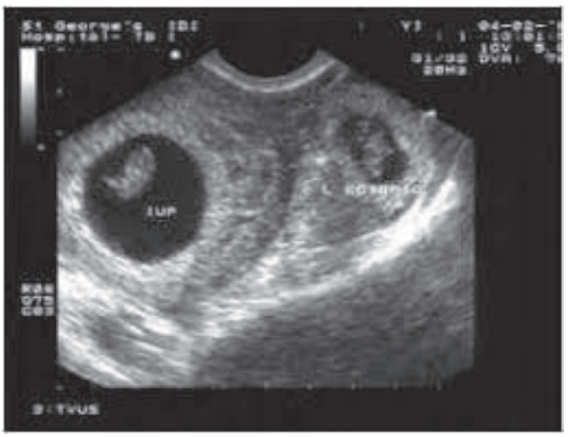
Expectant

- Pregnancy of unknown location
- Ectopic pregnancy

Medical

Surgical

- Laparoscopy
- Laparotomy



Expectant management

This approach is suitable in pregnancy of unknown location. The patient selection for expectant management is as below:

- Clinically stable asymptomatic
- Beta HCG level 1000 IU/L
- 45-68% resolve spontaneously as tubal abortion or early IUP(4)
- Active intervention is required in 23-30% patient
- Level rise or platuae above D-Z level.
- Symptoms of ectopic pregnancy occur.

Expectant management in ectopic pregnancy can be selected when:

- Pt stable asymptomatic
- Level decreasing below 1000 IU(2)
- Size less than 4 cm
- Successful in 67% pt
- Reduction in size of adnexal mass in 1 week
- Fluid less than 100 ml.

Follow up

The expectant management is monitored by following test:

- Twice weekly hCG
- Weekly TVS
- Weekly hCG + TVS unit level < 20 IU

Medical Management

The criteria for medical management is that the patient can present in out patient for treatment with methotrexate:

Prerequisites:

The liver and kidney must be functioning normally shown by normal levels of LFT's and RFT's.

Criteria for Medical Treatment

The patient can come for follow up. The patient is stable with no significant symptoms. The Size of sac < 3.5 cm. HCG Level are < 1500 IU/L and No visible rupture and fetal heart beat.

Contraindications

Medical management is not advisable with large adnexal mass usually already ruptured.

Follow up

Medical management is monitored by HCG level at 4 and 7 day, The HCG level must fall 15%. If not repeat dose. 14% require repeat dose. 10% will require surgical intervention.

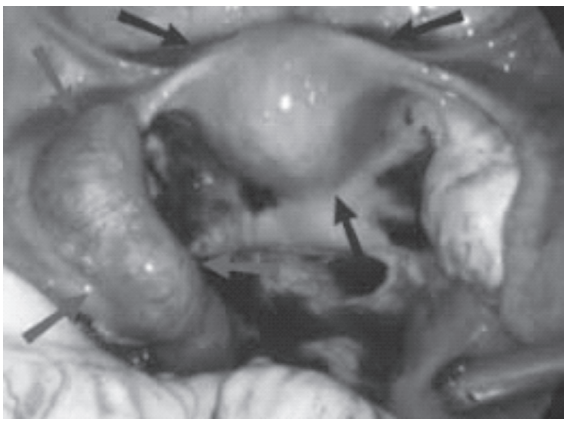
Methotrexate (Drug of choice)

Mechanism of action

It is an antimetabolile and anti folate and it works by inhibiting the metabolism of folic acid.

Indications:

- Ectopic pregnancy
- GTD
- Cancers
- Autoimmune disease
- Rheumatoid arthritis



DOSES:

Single I/M injection (50 mg /m2)

SIDE EFFECTS:

Methotraxate has following side effects.

- Photosensitivity
- Stomatitis
- GIT problems

Avoid pregnancy

It is advised to avoid pregnancy 6 months following methotraxate due to teratogenic side effects.

Surgery

Surgery is indicated in patient with ectopic pregnancy when;

- Unable to return for follow-up
- Significant pain
- Fetal cardiac activity positive on TVS
- Size > 3.5 cm
- Level HCG > 5000 IU/L
- Treatment with methotraxate not acceptable by patient

Laparoscopy (Criteria Selection)

laparoscopic approach is suitable when the

patient is hemodynamically stable, No fetal cardiac activity (FCA), Size of sac < 3.5 cm and HCG level < 5000 /U.

Advantages of laparoscopic approach:

- Shorter time
- Less blood loss
- Less hospital stay
- Less analgesic requires

Laparotomy

Open Surgery is suitable when patient is Hemodynamically unstable, Ruptured ectopic and Patient not full filling criteria of laparoscopic surgical treatment.

Salphingectomy

- Patient with no risk factor of infertility
- Already ruptured tube
- Higher trended toward further ectopic pregnancy.

Salphingotomy:

- Offer to women with contralateral tubal disease.
- More cost effective as less need of ART for IUP.

Disadvantages:

- 1/5 women may need further treatment with Methotraxate.
- May develop PGTD

Follow-up

After surgery the patient is monitored by HCG serum 7 day after procedure then weekly till HCG level negative.

If methotraxate given at time of surgery risk of PTGD is reduced significantly (1.9 vs / 14%).

Risk of Recurrence

- 8-14% with 1 ectopic
- 25% with previous 2 Ectopic previously
- 60% able to have IUP

Contraception

- IUCD -- Risk increases
- Safe to use all methods
- Advisable for 6 months

What not to do

- Avoid examination of suspected tubal rupture
- Medical treatment with large adnexal mass
- Laparoscopy for hemodymic unstable patient
- Serem progesterone as on adjunt to diagnose viable or ectopic pregnancy.

Evidence Base Meta analysis

Surgical treatment compare to methotraxate.

- No difference in success rate in future pregnancy rate.

Laparoscopy vs Laparotomy

- No differ outcome IUP
- Length of stay with Laparotomy is more
- Need of blood transfusion and intraoperative blood loss more with Laparotomy

Salphingectomy VS Salphingotomy

1. Less live birth rate with Salphingectomy
2. Salphingotomy less recurrence
3. Patient with is history of infertility
4. Salphingotomy more effective

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