# ABORTIONS

# DEFINITIONS OF ABORTION

1. Termination of pregnancy before 22 weeks
2. Delivery of a fetus of weight less than 500 grams

# STATISTICS OF ABORTIONS

- 50 - 60% of all pregnancies end in spontaneous abortion (SAB) since 2-4 wk
- 30% lost between implantation and the 6th wk.
- 70% of first trimester losses are due to chromosomal abnormalities

# TYPES OF ABORTIONS

1. Induced
2. Threatened
3. Incomplete
4. Complete
5. Septic
6. Missed
7. Recurrent

# 1. INDUCED ABORTION

- Medical or surgical termination of a pregnancy
- Types
  - **Elective:** if performed for a woman's desires
  - **Therapeutic:** if performed for reasons of health of the mother

# INDUCED ABORTION

- Therapeutic abortion for medical indications are
  - **Blighted ovum**: no evidence of embryonic development
  - **Missed abortion:** A pregnancy is identified as "failed," but no tissue has passed and the cervix is closed
- Elective abortion to 12 week is lawful in Croatia, from 1978

# ELECTIVE ABORTION - Scope of the problem

- Worldwide problems:
  - **High rate of teen pregnancy in world**
  - **Half of pregnancies unintended**

The abortion rate of teenagers has decreased in recent years because of use of long-acting hormonal contraceptives (injections or IUD)

# Any contraceptive method is better than none, . . .

- Contraception is key to helping women and their partners realize their family-size goals
- Using contraceptive methods reduce the risk of unintended pregnancy by more than 90%

# INDUCED ABORTIONS - COMPLICATIONS

Because most induced abortions in the world are done by less skilled persons they are usually associated with fatal complications including:

1. Perforation of uterus
2. Haemorrhage
3. Sepsis

# 2. THREATENED ABORTION

These patients have a 98 % probability of continuing the pregnancy without a loss

**The patient has next symptoms:**

- vaginal bleeding,
- the cervix is closed
- a fetal heartbeat has been seen

# 3. INEVITABLE ABORTION

It is not possible for the pregnancy to continue

**The patient has**:

- an open cervix
- with bleeding and cramping

# 4. INCOMPLETE ABORTION

Part of pregnancy tissue has been expelled from the uterine cavity and other are retained inside

**Symptoms**

- vaginal bleeding
- Cramping and pain

**Signs**

- Uterus smaller than dates
- Cervix is dilated

# 5. SEPTIC ABORTION

An abortion complicated by infection

**Symptoms**

- Abdominal pain
- Fever
- Vaginal discharge (foul smelling)

If not promptly treated, this can develop into pelvic inflammatory disease, sepsis, and death

# 6. RECURRENT PREGNANCY LOSSES

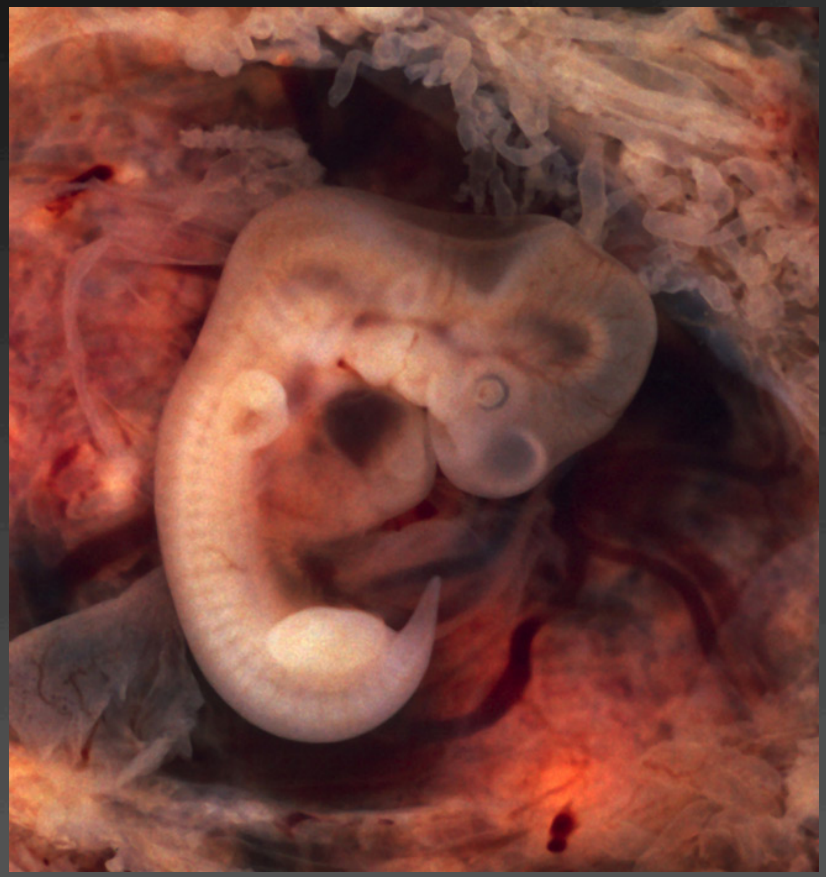
- Defined as 3 or more pregnancy losses
- Clinicians evaluate for a medical problem in the parents  after two recurrent pregnancy

# Causes of recurrent abortion

- Genetic Factors
- Endocrine Factors
- Congenital anomalies
- Infectious causes
- Immunologic problems

**An etiology recurrent abortion: Can be established in only 30%**

# ECTOPIC PREGNANCY



# Early pregnancy

The classical symptoms for early pregnancy disorders are:

1. amenorrhoea
2. pelvic or low abdominal pain
3. vaginal bleeding

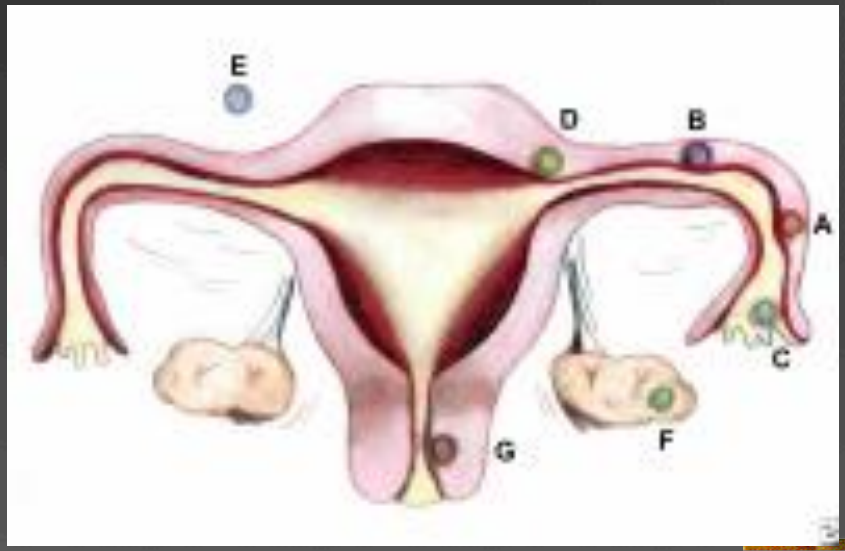
Pregnancy symptoms are often non-specific and many women of reproductive age have irregular menstrual cycles.

# Pregnancy tests

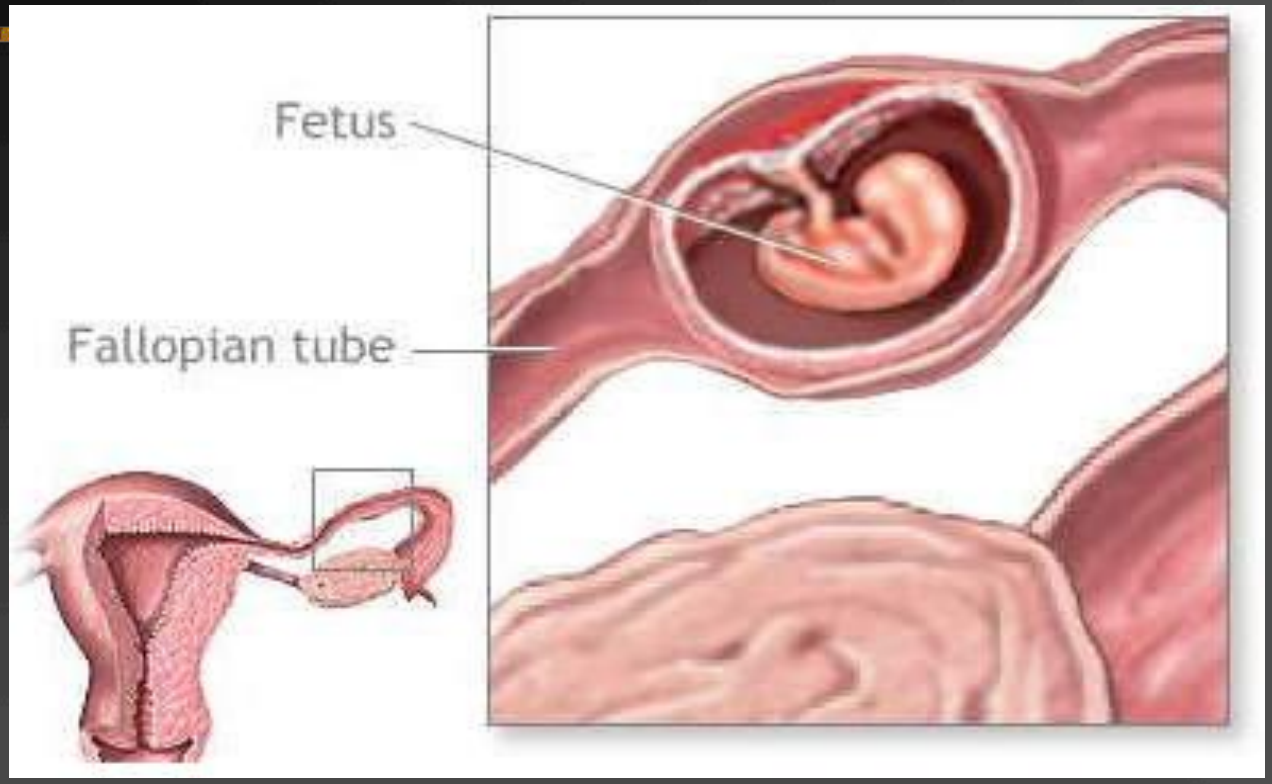
- Human chorionic gonadotrophin has a half-life of 6-24 hours and rises to a peak in pregnancy at 9-11 weeks' gestation

# Definition ectopic pregnancy:

Pregnancy in which the fertilized egg or embryo implants on any tissue other than the endometrial lining of the uterus



# Blastocyst implanted in the fallopian tube



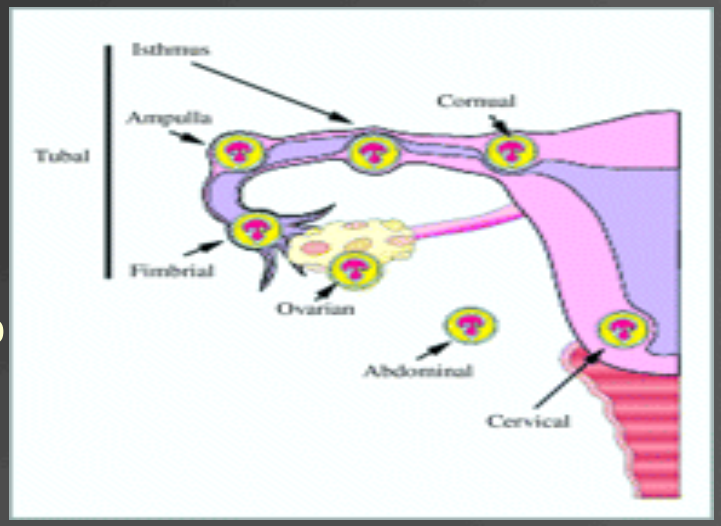

- The incidence of ectopic pregnancy is about 1 %.
- Between 95 and 98 percent of ectopic pregnancies occur in the Fallopian tube

# The most common sites for an ectopic pregnancy :

Sites of Implantation

- **<u>Fallopian tube – most common site (ampulla)</u> – 95%**
- Ovary
  - Uterine cornu
  - Cervix
  - Broad ligament
  - Spleen
  - Liver
  - Retroperitoneum
  - Diaphragm

**5%**



# Risk factors

The risk of ectopic pregnancy increases with:

1. maternal age,
2. number of sexual partners,
3. the use of an intrauterine device,
4. after proven pelvic inflammatory disease and
5. after pelvic surgery

As approximately 50 % of women operated on for an ectopic pregnancy have evidence of chronic pelvic inflammatory disease

# Pathophysiology

Any mechanical or functional factors that prevent or interfere with the passage of the fertilized egg to the uterine cavity may be etiological factors for an ectopic pregnancy.

Functional factors are:

- pregesteron only pill
- Intra uterine device
- Luteal phase defects
- Cigarette smoking

# Recurrence rate and Mortality rate:

- the risk of recurrence is around 10 per cent
- mortality from ectopic pregnancy is 13 per cent of all maternal deaths
- the fatality rate of ectopic pregnancy is about four times than of childbirth

# Clinical features

- There is no pathognomonic pain or findings on clinical examination that are diagnostic of a developing extrauterine pregnancy
- Vaginal bleeding and chronic pelvic pain are the most commonly reported symptoms

# Diagnosis of ectopic pregnancy:

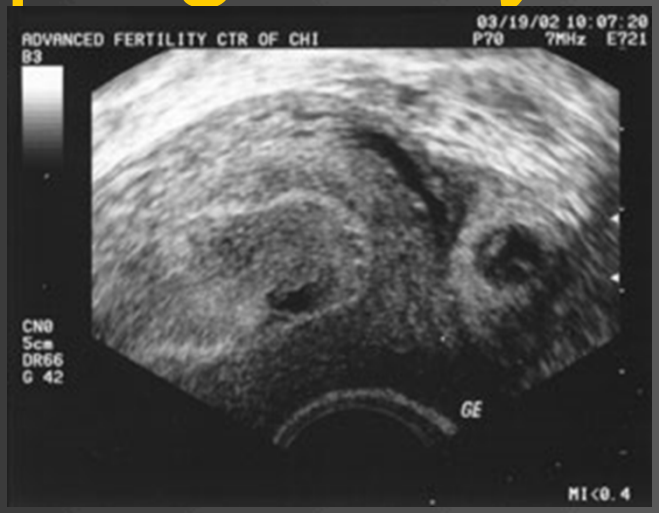
## Blood hCG test

- Typically these test can detect the occurrence of pregnancy (not location) about 7-8 days after fertilization

## Serial circulating hCG concentrations

- If there is a rate of rise of less than 66% over a 2 day period of time (in early pregnancy) this suggests an abnormally growing intrauterine pregnancy or an ectopic pregnancy

# Diagnosis of ectopic pregnancy:

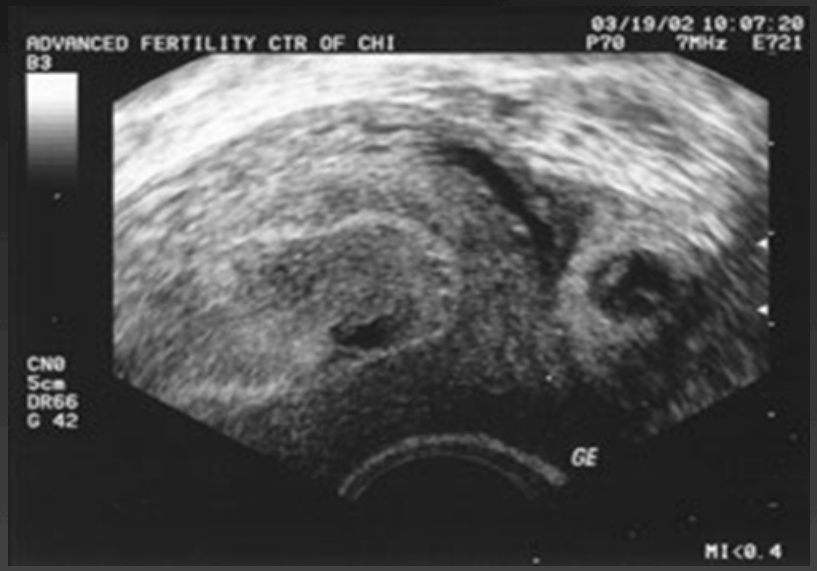


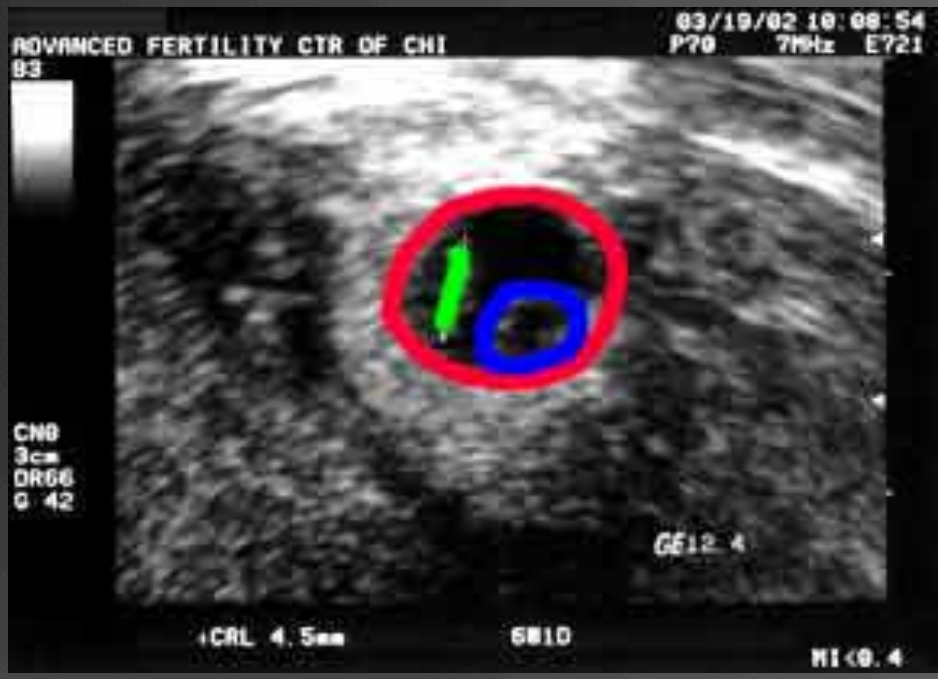

Transvaginal ultrasonography

- The absence of a gestational sac with 5 week suggests either an abnormally developing intrauterine pregnancy or an ectopic pregnancy

- The presence of fluid in the Douglas cavity is a non-specific sign of ectopic pregnancy

# Ultrasound showing uterus and tubal pregnancy:




Same picture with tubal ectopic pregnancy circled in red, 4.5 mm fetal pole (between cursors) in green, pregnancy yolk sac blue

# Heterotopic Pregnancy

- In rare cases of ectopic pregnancy, one egg outside the uterus and the other inside

- The survival rate of the uterine fetus of an ectopic pregnancy is around 70%.

# Treatment:

Ectopic pregnancy can be treated:

- conservative (expectant)
- medical
- surgical

According to:

- Clinical presentation
- Ultrasound finding
- B-HCG titer

# Expectant Management

Criteria for conservative management (without therapy):

- Decreasing β-hCG levels
- Tubal pregnancies only
- No evidence of intra-abdominal bleeding or rupture by vaginal sonography
- Diameter of the ectopic mass not greater than 3 cm

# Medical Management:

Methotrexate (anti-neoplastic drug) is a folic acid antagonist

Success is greatest if:

- The gestation is < 6 weeks
- The tubal mass should be < 3cm in diameter
- The fetus is dead

Resolution of the ectopic has been reported in about 70-95% of cases treated.

Tubal patency rates by hysterosalpingogram have been 70-85%

# Surgical Management

The surgical treatments of ectopic pregnancy are salpingectomy or salpingotomy by laparotomy or laparoscopy

- Salpingotomy (or -ostomy): making an incision on the tube and removing the pregnancy
- Salpingectomy: cutting the tube out

There is no evidence that suturing the incision on the tube closed or leaving it open is better.

# *Infertility*

# *Diagnosis*

After one year of frequent, unprotected sexual intercourse there is no conception or pregnancy

# *Background information*

- At puberty there are 300,000 primordial follicles
- Dominant follicle produces estradiol which leads to LH peak
- Ovulation occurs 24-36 hours later
- The fertilization life span of the ovum is 24-36 hours
- The receptivity of the endometrium is days 16-19 of a 28 day cycle

# *Background information*

- The single most important determinant of a couple's fertility is the age of the female partner

- The effect of age on male fertility, however is less clear

# *Tests which have an established correlation with pregnancy*

- Semen analysis
- Tubal patency test by HSG or Laparoscopy
- Mid luteal serum progesterone for the diagnosis of ovulation

# *Investigations*

- The male partner should normally have two semen analyses
- Early follicular phase estimation of FSH and LH for female
- Before any uterine instrumentation, there should be screening women for Chlamydia
- Ultrasound evaluation of the ovaries may be useful
- When an evaluation of the pelvis is required, diagnostic laparoscopy is the procedure of choice

# *Treatment*

- Both partners should be seen together
- Privacy and sufficient clinical time is necessery
- Counseling is very important and essential

# *Assisted reproduction*

The most common techniques used. There are:

- Intrauterine Insemination (IUI)
- In Vitro Fertilization (IVF)
- Intracytoplasmic sperm injection (ICSI)

# *Assisted reproduction*

- The success rate of the clinic should be told to the patient
- The take home baby rate is around 20% - 30%
- There is no increase in the incidence of the congenital abnormalities

# *Intrauterine Insemination*

- Clomiphene citrate – used to increase FSH and LH secretion and stimulating ovulation
- One dose of HCG stimulate release of the egg from the follicles
- Sperm are collected within 3 hours of coitus and are inserted via a catheter into the uterus

# *In Vitro Fertilization (IVF) Medicaments stimulation*

- Administration of FSH snd LH injections to stimulate the ovary to produce multiple eggs 8-12

- On first day menstrual cycle start stimulation

# *In Vitro Fertilization (IVF) Ultrasound measurement*

- On eight day begin measurement by ultrasound
- We measured by ultrasound follicle size each two days from a eigth day cycle
- Each follicle can be seen and measured by ultrasound

# *Egg retrieval procedure*

- When the egg in follicle is mature, follicular size is 15 to 20 mm
- Then the egg aspiration procedure is done to take the eggs out
- Powerful anesthesia medications are given

# *Egg retrieval procedure*

- In egg retrieval procedure a needle is passed through the top of the vagina (controlled by ultrasond) to get to the ovary and follicles

- The fluid and eggs in the follicles is aspirated through the needle

- The procedure usually takes about 10 minutes at our clinic
- When all of the follicles have been aspirated, the woman wakes up

# *IVF laboratory*

- The fluid with the eggs is passed to the IVF lab where the eggs put in culture media
- The dishes with the eggs are then kept in incubators under controlled environmental conditions
- In IVF lab. sperm and eggs are put together about 4 hours after egg retrieval (IVF)
- or the one sperm is injected into one egg

_(This injection process is called ICSI)

# *Embryo transfer procedure*

- After  2-5 days embryos put into the uterus (embryo transfer procedure)

- Fourteen days after egg retrieval woman makes pregnancy test

# *IVF – Postprocedure Care*

- Observation 2 hrs after egg retrieval
- Instructing the woman to limit activity for 24 hrs.
- After embryo transfer  progesterone supplementation is commonly prescribed

# *THANK YOU!!!*

Methods of infertility treatment