



**FACULTY  
OF MEDICINE**  
Masaryk University

**Masaryk University School of Medicine  
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**Department of Obstetrics and Gynecology**

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# **Emergency Conditions in Obstetrics and Gynecology**



**General Medicine Obstetrics and Gynecology  
Seminary 2017 – 2018 – Autumn Semester**

# Some of acute conditions in obstetrics

- bleeding in pregnancy
- postpartal haemorrhagy
- eclampsia
- fetal hypoxia
- embolism
  - amniotic fluid
  - trombosis
  - air embolism

# Bleeding in pregnancy

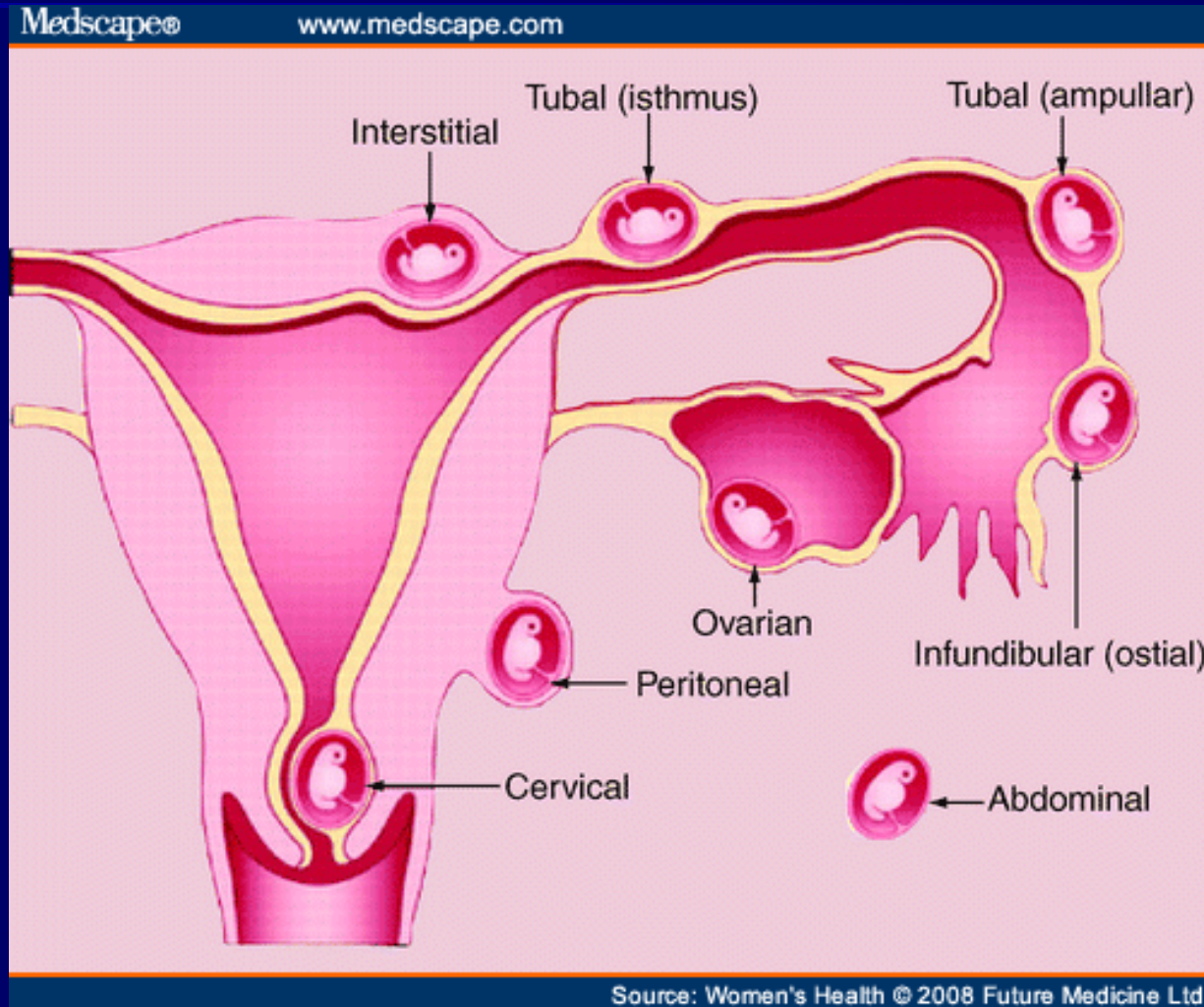
Most important condition in pregnancy

- Ist trimester
  - ectopic pregnancy
  - abortion
- IIInd trimester
  - abortion
- IIIrd trimester
  - placenta praevia
  - vasa praevia
  - placental abruption
- Postpartal haemorrhagy – hypotonia, atonia

# Ectopic pregnancy

- most common cause of maternal death in 1st trimester
- incidence 10-20/1000 pregnancies
- incidence is increased 3 times due to a sexually transmitted agent

# Types of ectopic pregnancy



# Risk factors

Table 14.2 Risk factors for ectopic pregnancy

Risk factor	Odds ratio
<b>High risk</b>	
Tubal surgery	21.9
Sterilisation	9.3
Previous ectopic pregnancy	8.3
In utero exposure to diethylstilboestrol	5.6
Use of IUD	4.2–45.0
Documented tubal pathology	3.8–21.0
<b>Moderate risk</b>	
Infertility	2.5–21.0
Previous genital infections	2.5–3.7
Multiple sexual partners	2.1
<b>Slight risk</b>	
Previous pelvic/abdominal surgery	0.9–3.8
Cigarette smoking	2.3–2.5
Vaginal douching	1.1–3.1
Early age at first intercourse (<18 years)	1.6

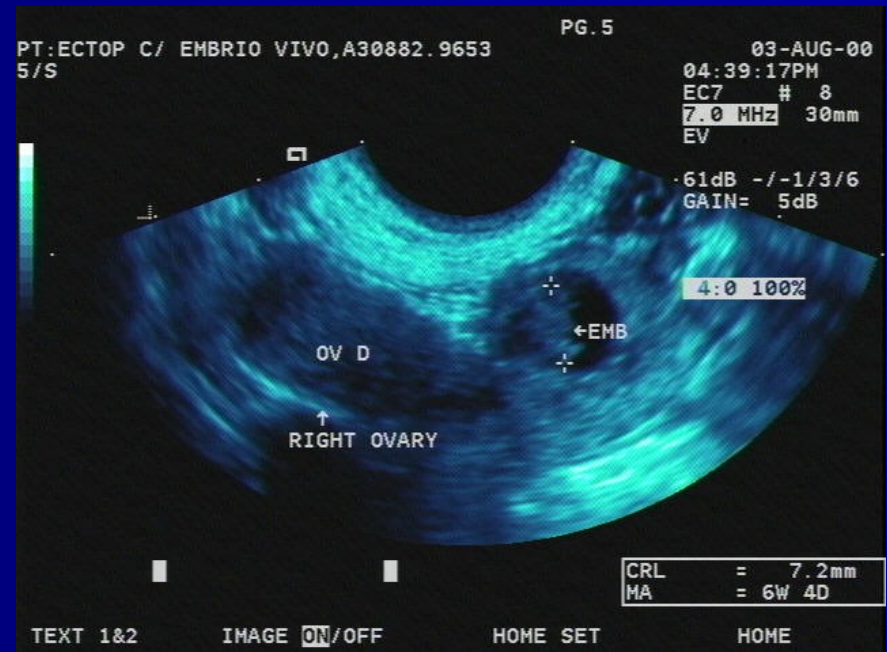
From Pisarska et al 1998, with permission.

# Symptoms of ectopic pregnancy

- ammenorrhoea – 5-8 weeks
- abdominal pain 97%
- vaginal bleeding 79%
- abdominal tenderness 54%
- history of infertility 15%
- IUD 14%
- previous ectopic pregnancy 11%

# Ectopic pregnancy - Examinations methods

- hCG
- gynaecological examination
- ultrasound





# Ectopic pregnancy - Examinations methods

- Diagnostic laparoscopy

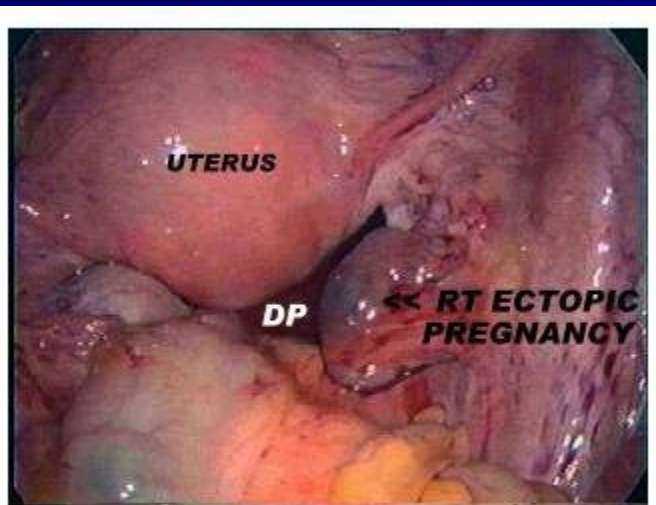
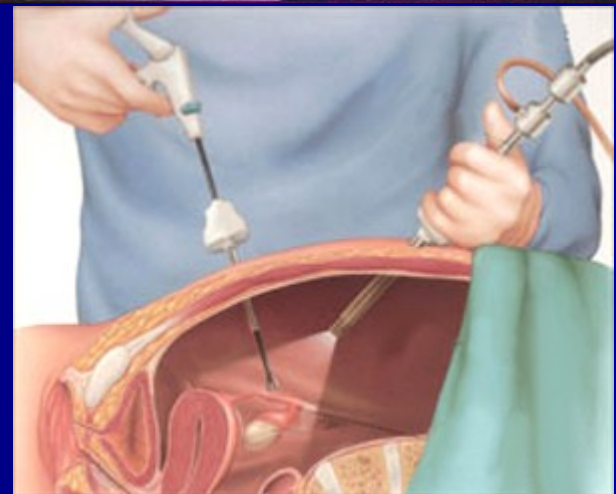
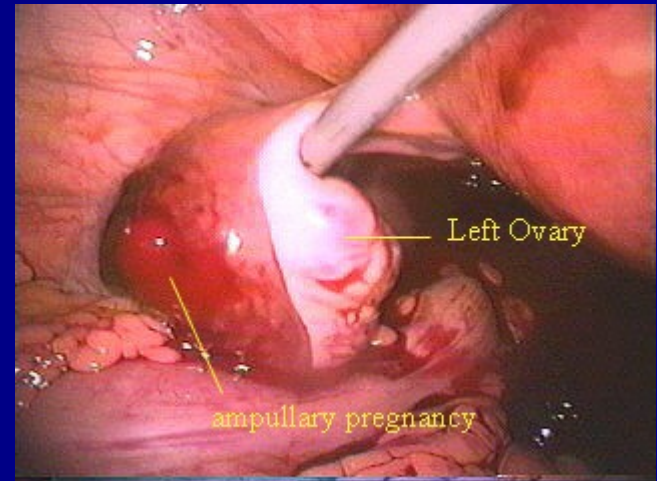


Figure 15:  
Right Ectopic Pregnancy (DP= Douglas Pouch)



# Ectopic pregnancy - treatment



## Surgical

- laparoscopy – 99%
  - salpingectomy - 95 % in CR
  - salpingostomy – rare – high risk of recurrence
  - resection of ectopic pregnancy –
- laparotomy – 1%
  - with life – treatening – heavy blood loss

## Medical

- methotrexate

# Abortion

- 25 % of women lose a pregnancy at some time in their reproductive lives
- up to 24 weeks of gestation
- recurrent abortion or miscarriage – loss of 3 or more early gestations
- 12 – 15 % of all clinically recognised pregnancies fail spontaneously
- 40% of all pregnancies
- 95% in 1st trimester

# Abortion - etiology

- genetic factors 50%
  - chromosomal abnormalities
- infection
- anatomical abnormality of uterus
- cervical incompetence
- social and environmental factors
  - alcohol, toxic agents, smoking
- alloimmune factors
- endocrine dysfunction
  - luteal phase defect
- autoimmune factors
  - antiphospholipid syndrom
- inherited thrombophilia

# Diagnosis of abortion

## Gynecological examination

- bleeding
- open cervix

## Ultrasound – transvaginal

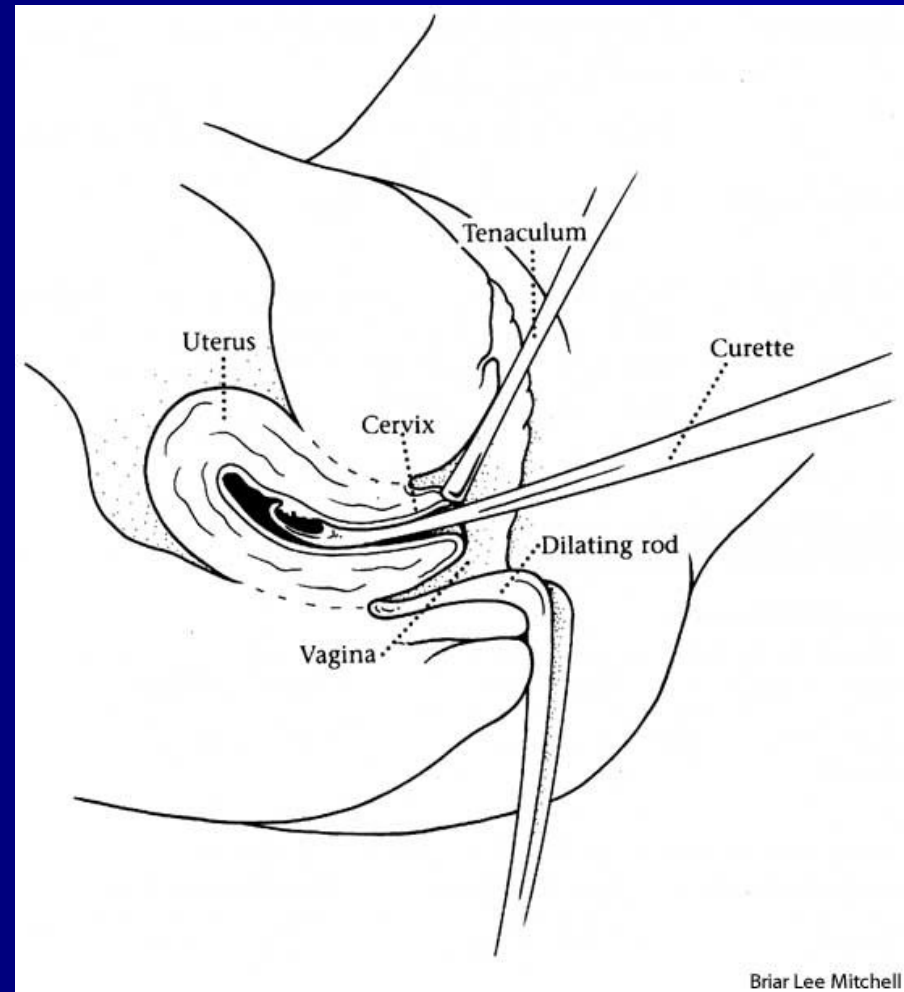
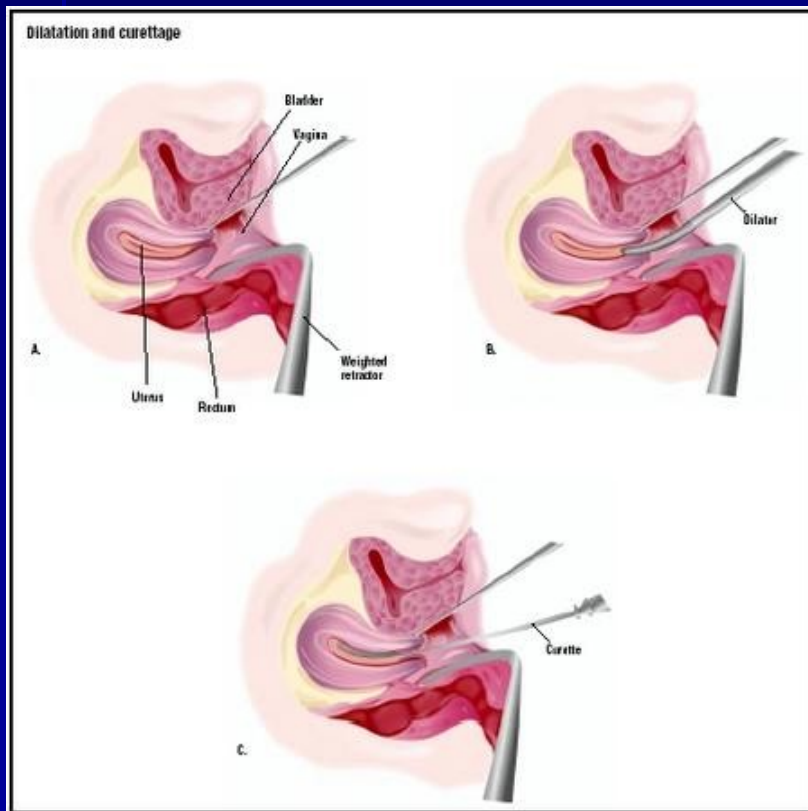
- no FHR
- wiped and irregular shape of gestational sac

## hCG

- decrease level

# Treatment of abortion

## ■ curettage

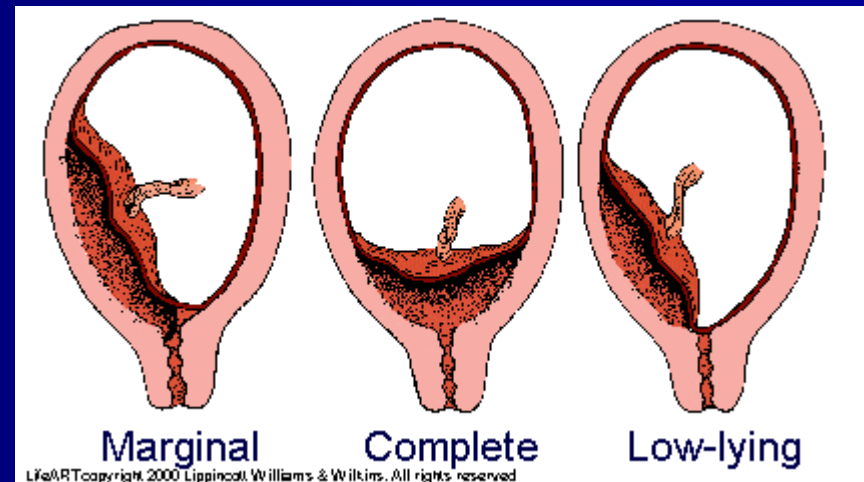


# Placenta praevia

Placenta is partly or wholly implanted in the lower uterine segment.

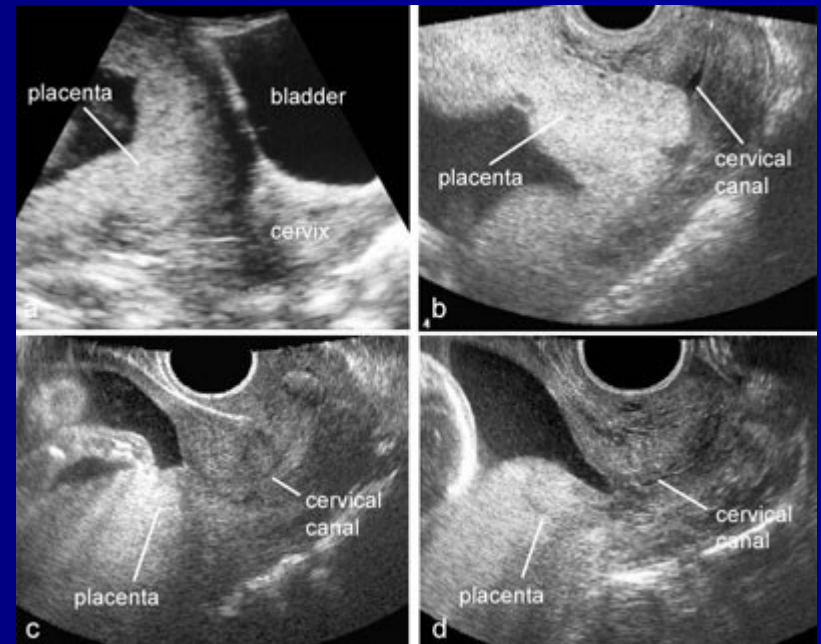
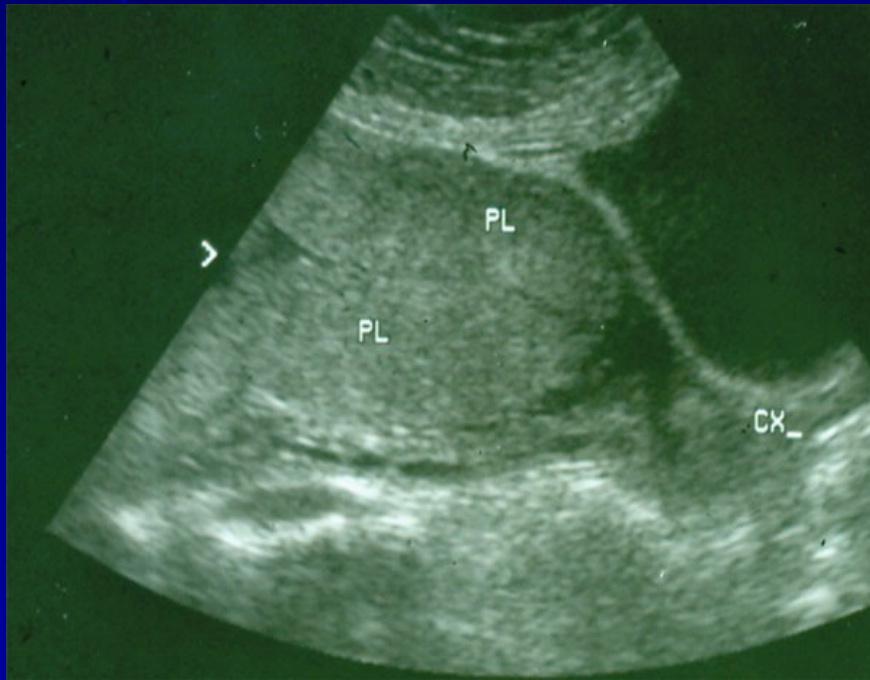
- placenta in lower uterine segment
- placenta praevia marginalis
- placenta praevia partialis
- placenta praevia centralis, totalis

incidence 0,4 – 0,8%



# Placenta praevia - diagnosis

- Ultrasonography
  - ultrasound 30 – 32 week





# Placenta praevia - diagnosis

## Symptoms

- bleeding in the 3rd trimester
- abnormally located and inserted placenta separates from the decidua
- bleeding results from the exposed uterine vessels from the lower uterine segment which is thin
- lower segment has poor contractility and the bleeding can be severe

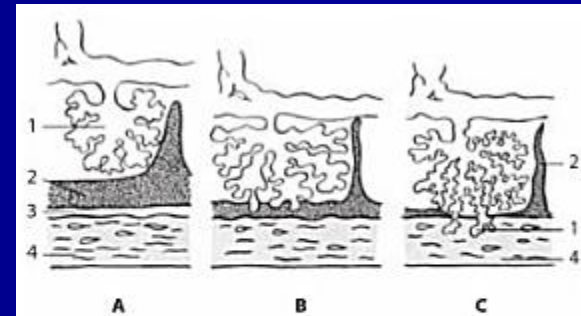
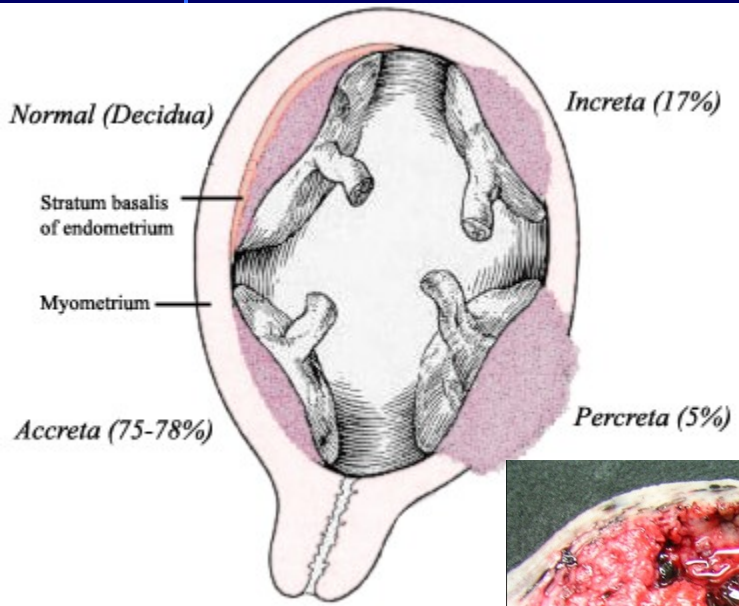
# Placenta praevia – clinical management

- expectant management
- hospitalisation 32 – 37 week
- caesarean section 38 week – placenta praevia
- caesarean section for heavy bleeding
- tocolytics are contraindicated
- vaginal delivery – low uterine segment placenta, placenta praevia marginalis

# Placenta accreta

- placenta is abnormally adherent to the uterine wall
- placenta adherens - grows into the decidua basalis
- placenta accreta – grows on the uterine muscles
- placenta increta – invade uterine muscles
- placenta percreta – penetrate through uterus
- 1:2500 deliveries
- placenta praevia 10%

# Placenta accreta



Obr. 13.44 Typy prorůstání choriových klků (A – normální inzerce, B – *placenta adherens*, C – *placenta increta/accreta*, 1 – choriový klk, 2 – pars compacta decidua basalis, 3 – pars spongiosa decidua basalis, 4 – myometrium)

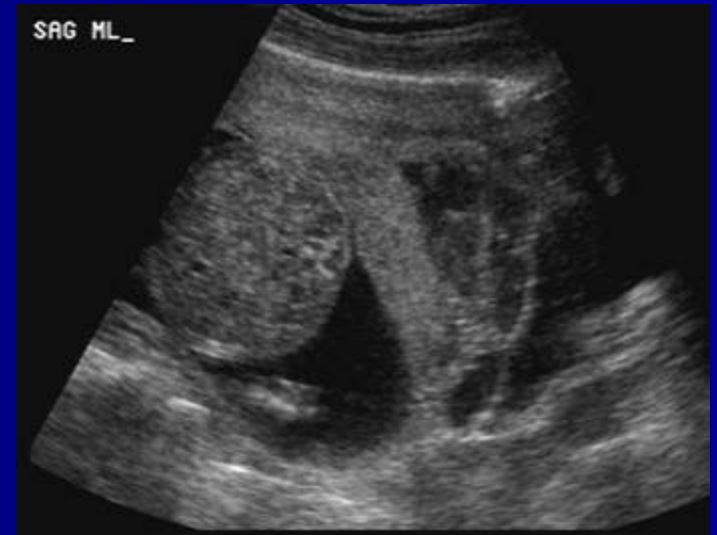
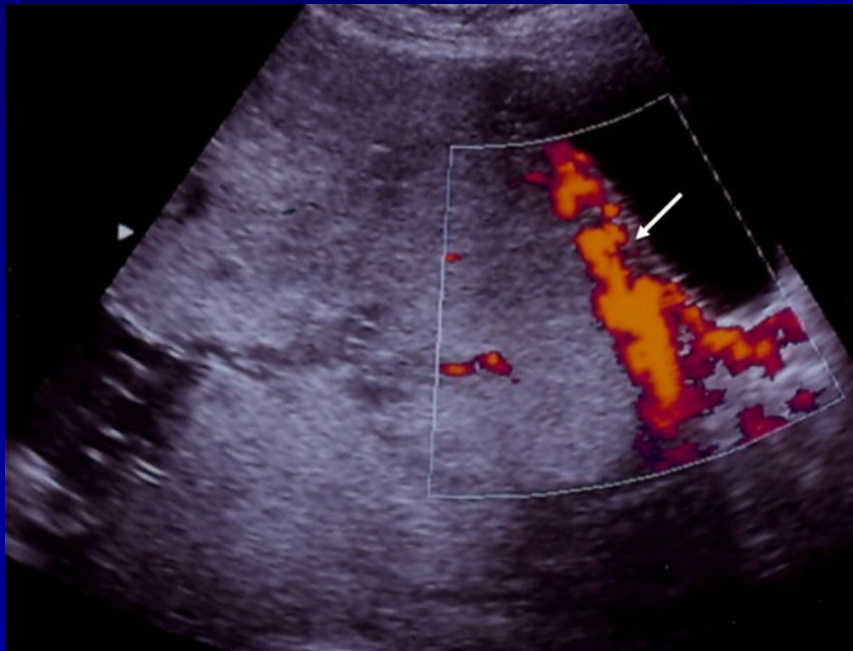


Uterus with placenta accreta  
By lunar caustic



# Placenta accreta - diagnosis

- Ultrasound
- MRI



# Placenta accreta - management

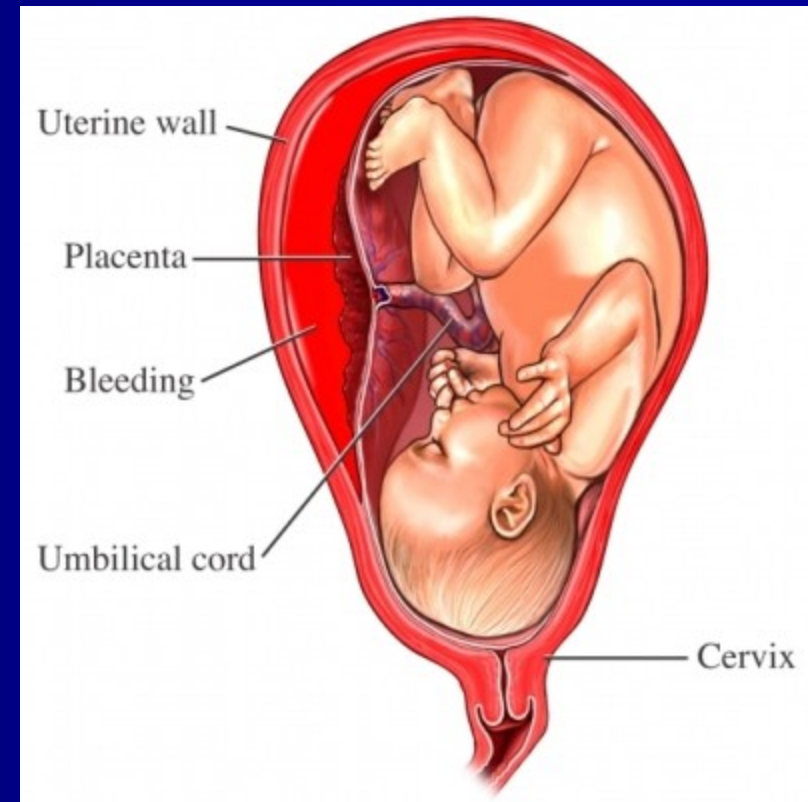
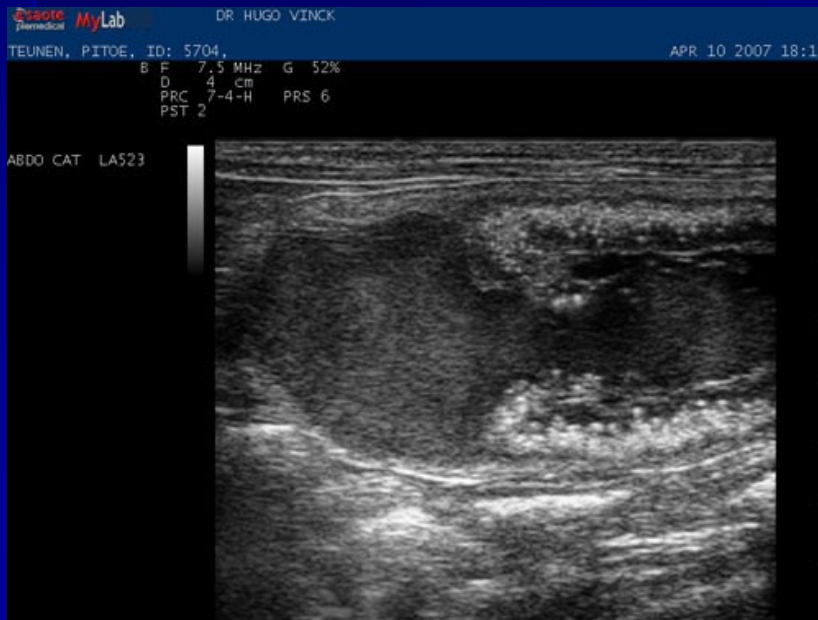
- 90% women with placenta percreta will lose more than 3000 ml of blood during operation
- the diagnosis is made mostly during the caesarean section or labour
- hysterectomy may be necessary by increta and percreta
- pelvic arterial embolisation could be an alternative

# Placental abruption

- incidence 1 %
- placental attachment to the uterus is disrupted by haemorrhage
- etiology
  - abdominal trauma
  - uterine decompression
  - prolonged rupture of the membranes
  - unknown

# Placenta abruption - diagnosis

- bleeding
- pain – hypertonus
- ultrasound





# Placental abruption - management

- expectant management
  - abruption very minor
  - gestation very preterm
- caesarean section
  - immediately by heavy bleeding
  - immediately 32 week above

# Postpartum haemorrhage

- uterine atony or hypotony
- retained placenta
- lower genital tract trauma
- uterine rupture

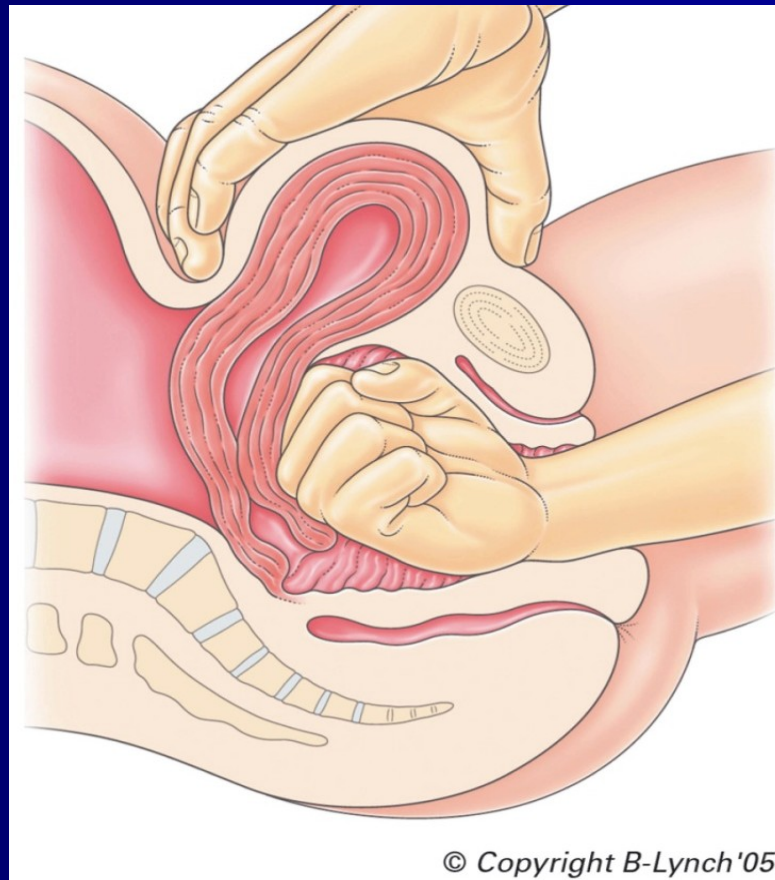
# Uterine atony

- uterus contractions and retraction fails to occur
- uterus remains soft , boggy and relaxed
- causes – unknown or retained placenta
- 80% of PPH

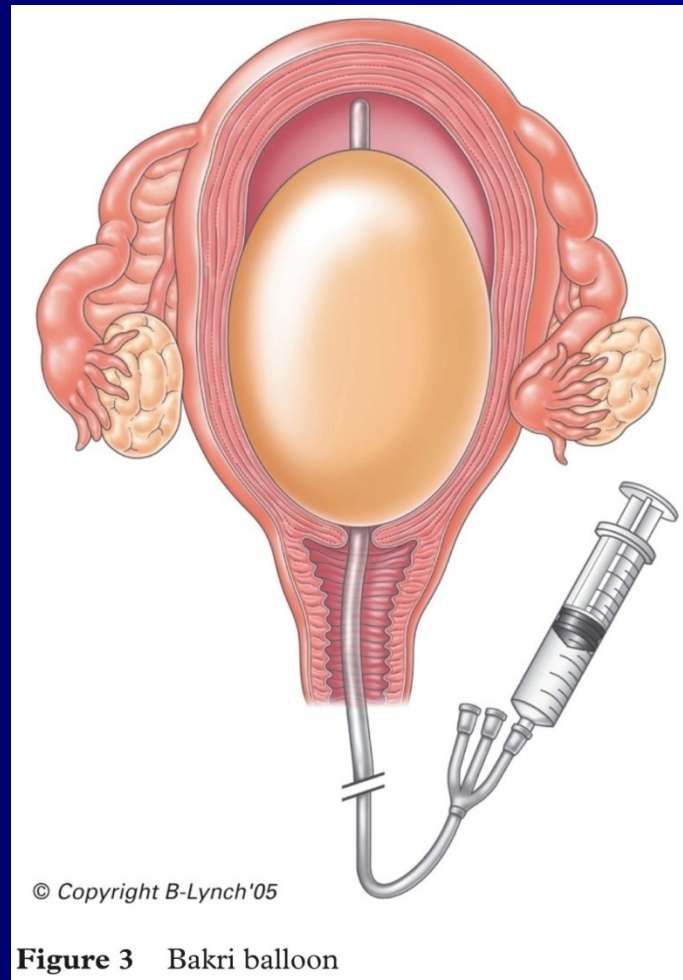
# Uterine atony - management

- uterotonics
  - oxytocin, PGE, MEM, carbetocin
- compression of uterus
- curettage
- tamponade – Bakri balloon catheter
- B - lynch compressive suture
- embolisation of pelvic vessels
- ligation of internal iliac vessels
- hysterectomy

# Bimanual compression



# Bakri balloon tamponade



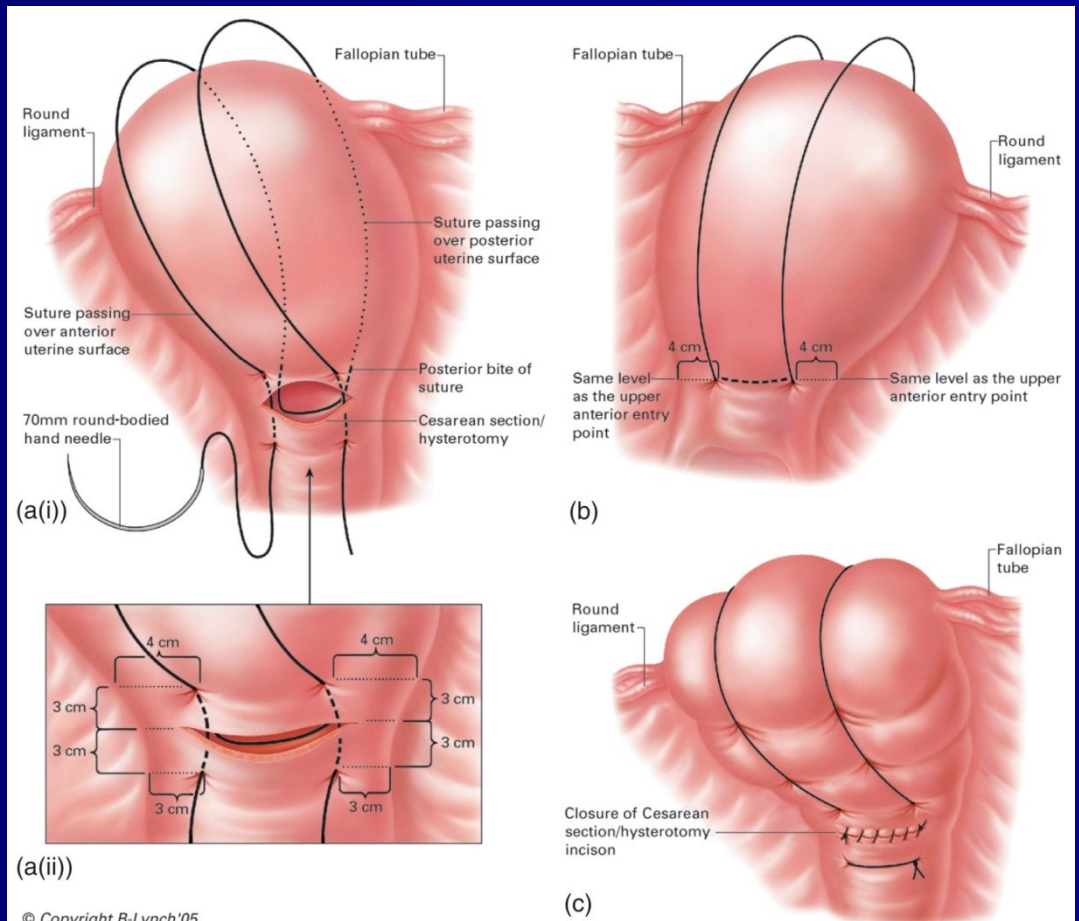
**Figure 3** Bakri balloon

# B-Lynch compressive suture - outdated



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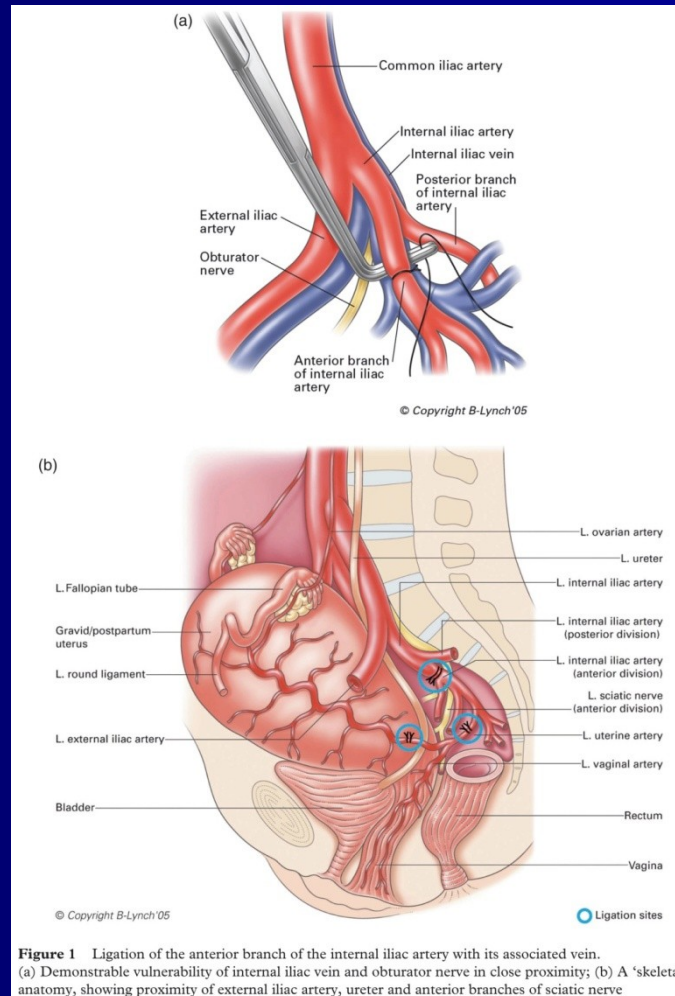
**Figure 3** The *in vivo* effect of correct application of the B-Lynch surgical technique seen immediately after successful suture application. No congestion, no ischemia and no 'shouldering' of the sutures at the fundus



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**Figure 2a-c** Summary of the application of the B-Lynch procedure

# Internal iliac artery ligation





# Retained placenta

## Cause

- constriction of lower part – cervix
- placenta adherens

## Management

- manual removal + curettage
- general anesthesia

