Imaging methods in gynecology
Imaging methods

- Ultrasonography
- Computed tomography
- Magnetic resonance imaging
- Conventional radiology
- Angiography
Ultrasound

- Transabdominal
- Transvaginal

- Method of the first choice (screening)
CT

- appropriate for detection of ovarian tumors
- less appropriate for examination of uterus

(Normal CT finding)
MRI

- **Tumors**
  - more accurate than CT or US thanks to better contrast between individual tissues

- **Endometriosis**
  - presence of methemoglobin – specific picture

(Normal uterus)
Conventional radiology

- Calcifications
- Gas distribution
- Skeleton
- IUD detection
Hysterosalpingography (HSG)

- Application of contrast agent into the uterine cavity

- **Indications** - sterility, infertility

- **Contraindications** - inflammation, tumor, pregnancy, menses
Normal finding
Left fallopian tube obstruction
Angiography

- Rarely indicated method

  (e.g. pathologic vascularization or involvement of pelvic vessels in tumors)
IUD
Congenital disorders
Inflammatory diseases

Pyometra
Actinomycosis
Endometriosis

T1 w.i.

T2 w.i.

Fat supression
Uterine tumors

Leiomyoma
Cervical carcinoma
Peritubal adhesions
Hydro- and pyosalpinx
Hydro- and pyosalpinx

- Dilated fallopian tube
- Urinary bladder
- Uterus
Hydro- and pyosalpinx
Cystadenoma (+ calcified myoma)
Cystadenokarcinoma
Carcinoma
Reccurent ovarian carcinoma with peritoneal metastases
Dermoid & teratoma
Dermoid & teratoma

T2 w.i.

Fat supression
Imaging methods in obstetrics
Imaging methods

- Preferentially are used methods without radiation exposure
  
  - Ultrasonography
  - Magnetic resonance imaging
Ultrasonography

- Method of the first choice
  - confirmation of pregnancy
  - recognition of multiple pregnancy
  - vitality
  - fetal biometry
  - detection of congenital disorders

Screening - 2. a 3. trimester
• 2. – 3. week – gestational sac
• 6. – 7. week – heart activity
Fetal biometry

- Method for assessment of gestation age and fetal growth
- Diameters in standard projections are compared with tabular values

Temenokostrční délka
Biparietal distance
Dead fetus

1) Absence of flow and heart movements
2) Oligohydramnion
3) Superposition of skull bones
Extrauterine gravidity
3D ultrasound

- most frequently used in obstetrics

- Commercial use
- Diagnostics of congenital abnormalities
MRI

- congenital disorders (in case of unclear US finding)
- examination of mother (instead of X-ray or CT)

**Contraindications**

- 1. trimester
- contrast material
Congenital brain abnormality - interhaemispherical cyst and agenesis of corpus callosum
Plain film

- Nowadays is this method replaced by US or MRI

Dead fetus

- Distortion of vertebral column
- Superposition of skull bones
- Abnormal position of extremities
- Presence of gas