Obstetrics & Gynaecology

World of Revision

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Contents

Obstetrics & Gynaecology

GYNAECOLOGY REVISION : PART 1

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Anatomy of Uterus

00:00:42

Normal position of uterus :
- Anteflexed : B/w uterus & cervix (120°).
- Anteverted : B/w vagina & cervix (90°).

Ligament which helps to keep uterus in anteverted position :
Round ligament (RL).

Ligament which prevents retroversion :
Uterosacral ligament > RL.

Ligaments which support uterus :
1. Cardinal ligament (Transverse cervical/Mackenrodt's ligament).
2. Uterosacral ligament.
3. Pubocervical ligament.

Ligament which does not support uterus :
Broad ligament.

Muscle which mainly supports uterus :
Levator ani muscle :
Pubococcygeus, Iliococcygeus.

At fundus of the uterus, three structures are present :
- R : Round ligament.
- T : Fallopian tube.
- O : Ovarian ligament (OL).

Ligament which connects :
- Ovary to uterus : Ovarian ligament.
- Ovary to pelvic side wall : Infundibulopelvic ligament/Suspensory ligament of ovary (Contains ovarian vessels).
- Blood supply of uterus :
  - Uterine artery (Branch of anterior division of internal iliac artery).
  - Utero-ovarian anastomosis.
- Nerve supply : $T_{10} - L_1$.

Uterus

To visualize uterus from inside :
Hysteroscopy :
Distension media → Gas : Only diagnostic.
→ Liquid : Diagnosis & Rx.

Unipolar cautery is used with :
Electrolyte deficient media :
- Glycine (m/c).
- Mannitol.
- Sorbitol.

With electrolyte deficient media, procedure is stopped at : 1000 mL fluid deficit.

With electrolyte rich media, procedure is stopped at : 2500 mL fluid deficit.

Electrolyte rich media :
- NS.
- Ringer lactate.

} m/c used. (Best media)

Hysteroscopy indications :
- Ashermann syndrome.
- Septate uterus.
- Endometrial polypectomy.
- Type 0 & 1 (Submucous) fibroid.

Cervix to Corpus Ratio :
At birth → 1 : 1.
Before puberty → 2 : 1.
At puberty → 1 : 2.
At reproductive age → 1 : 3.
After menopause → 1 : 1 (Both atrophy).

Uterus develops from : Mullerian duct.
Round ligament develops from : Distal end of gubernaculum.
Ovarian ligament develops from : Proximal end of gubernaculum.

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Uterine Vasculature :

Branches of uterine artery :

- Uterine artery.
- Arcuate artery.
- Radial artery → Basal artery. / Spiral artery.

Stepwise devascularization in PPH Mx :

Ligation of :

1. Uterine artery : U/L → B/L.
2. Utero-ovarian anastomosis.
3. Anterior division of internal iliac artery

↓

Trisulnikov's triple ligation :
3rd is Sampson's A./Artery of RL.

Note :

Living ligature : Middle layer of myometrium.

Round Ligament :

Canal of Nuck :

- Fold of peritoneum with round ligament in inguinal canal.
- Leads to hernia.

Artery of round ligament :

Sampson artery : Arises from inferior epigastric artery > Uterine artery.

Broad Ligament :

Contents :

- Fallopian tube → 1 tube.
- RL, OL } 2 ligaments.
- Uterine A (UtA), Ovarian A } 2 arteries.
- Epoophoron, Paroophoron, Gartner's duct } 3 remnants.

Uterine Relations :

Ureter :

- Relation
  - Posterior to : Ovarian & uterine artery.
  - Anterior to : Internal iliac artery.
- M/c site of injury : 2 cm lateral to internal os. (Water under bridge : Uterine A. crosses ureter.)
- Risk of injury : Modified radical/Wertheim's > Radical > Laparoscopic > Total abdominal > Vaginal hysterectomy.

Retroverted Uterus :

Retroverted/Retroflexed uterus :

- 20%.
- Manually corrected.

Fixed retroverted uterus :

- Endometriosis > PID/genital TB.
- Cannot be corrected manually.

Clamping during Hysterectomies :

Abdominal hysterectomy :

Vaginal hysterectomy : Order reversed.

- 1st : RTO pedicle.
- 2nd : Cardinal ligament.
- 3rd : Uterine artery.
- 4th : Uterosacral ligament.

Total abdominal hysterectomy (TAH) :

Remove uterus + cervix

- Without BSO : Clamp at ovarian ligament.
- With BSO : clamp at infundibulopelvic ligament.

Anatomy of Cervix

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Cervix has Two Parts :

Endocervix :

- Supravaginal.
- Red.

Exocervix :

- Portio vaginalis.
- Pink.

Lining of :

- Endocervix : Columnar epithelium.
- Exocervix : Stratified squamous epithelium.

Junction of the endocervix & exocervix :

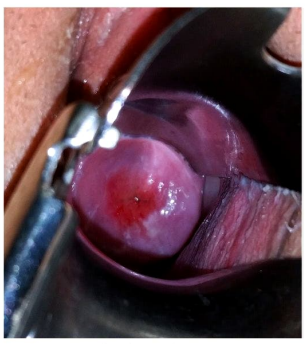
- Transformation zone (TZ)/ Squamocolumnar junction.
- Level : External os.
- m/c site for pre-invasive and invasive lesions of cervix.

Normal length of cervix :

- In non-pregnant female : 2.5 cm.
- In pregnancy : 4 cm.
- In pregnancy, if length of cervix is < 2.5 cm :
  - K/a short cervix.
  - Risk of T2 abortion and preterm labour.
- ACOG recommends : TVS : Cx length b/w 16 – 24 WOG
  - h/o T2 abortion
  - h/o preterm labour

Cervix

- T2 moves out :
  - Puberty.
  - OCP.
  - Pregnancy.
- Ectropion :
  - When endocervix is seen moving out of exocervix.
  - Physiological in pregnancy.
  - Do not take biopsy.
  - Can cause post coital bleeding.



Ectropion

- Blood supply of cervix : Descending cervical artery (Branch of uterine artery).
- Nerve supply of cervix : $S_2 - S_4$.
- Lymphatic drainage of cervix :
  - H : Hypogastric/Internal iliac LN.
  - O : Obturator LN.
  - P : Paracervical LN.
  - E : External iliac LN.
- Cervix does not drain into : Superficial inguinal LN.
- Sentinel lymph node : Paracervical LN.
- Duhrssen's incision :
  - Done in entrapped head in breech.
  - Above/below 3 o'clock & 9 o'clock (Site of artery)

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Pain management & Instruments

00:23:34

Pain Management :

Pain : → 1st stage : D/t uterine contraction (T_{10}-L_1).
→ 2nd stage : Cervical dilation (S_2-S_4).

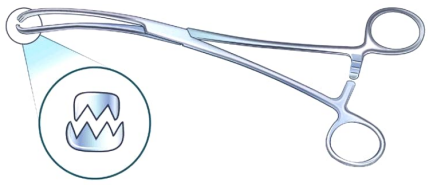
Analgesia	Procedure	Level / Site
Epidural analgesia	Painless labour	T_{10}
LSCS anaesthesia		T_4
Pudendal block	Instrumental delivery	Ischial spine : Pierce sacrospinous ligament
Paracervical block	Suction & evacuation	Never at 3 o'clock & 9 o'clock

Instruments :

Uterine sound :
- Have calibrations.
- Olive tipped.
- Assess size and position of uterus.

Bladder sound :
No calibrations.

A. Anterior vaginal wall retractor :
Large loop with serrations.
B. Blunt – sharp curette :
Small loop.



Vulsellum forceps :
- To hold lip of cervix (Non pregnant).
- Has ratchet lock.
- Curved blade with gap.
- Rat like teeth.

Note :
- Cervix of pregnant woman : Sponge holding forceps.
- Allis forceps : No curve.
- Kocher's forceps : No gap.

Anatomy of Vagina

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- Lined by : Stratified non-Keratinized squamous epithelium.
- Has inhabitant bacteria : (Lactobacilli) Döderlein → Convert glycogen into lactic acid.
- Döderlein bacilli appear at puberty and disappear at menopause.
- Vagina develops from :
  - Upper part : Mullerian duct.
  - Lower part : Urogenital sinus.
- Vagina does not have glands.

pH of Vagina :

- At birth : Acidic.
- During childhood : Alkaline (6 – 8).
- At puberty : Alkaline → Acidic.
- In reproductive age : 4 – 4.5.
- During pregnancy : < 4.
- During menstruation : 6 – 8.
- After menopause : 6 – 8.

Cells of Vagina :

- Cells which predominate in estrogen predominance : Superficial cell.
- Cells which predominate in progesterone predominance : Intermediate cells.
- Cells which predominate when no hormone predominance : Parabasal cells.

Vagina

De Lancey's Levels of Support :

Level 1 :

- Uterosacral & cardinal ligament.
- Support : Upper 1/3rd vagina.
- Defect leads to :
  - Apical prolapse.
  - Vault prolapse.
  - Cervical elongation.
  - Enterocele.

Level 2 :

- Arcus tendinous fascia.
- Support : Middle 1/3rd vagina.
- Defect leads to :
  - Cystocele (m/c)
  - Rectocele.

Level 3 :

- Perineal body & muscles attached to it.
- Support : Lower 1/3rd vagina.
- Defect leads to :
  - Urethrocele.
  - Rectocele.
  - Laxed perineum.

Management of Vaginal Prolapse :

Does not depend on age and parity.

- Pelvic floor repair.
  - Cystocele, Urethrocele → Ant. colporrhaphy
  - Rectocele, Laxed perineum → Post. colpoperineorrhaphy
  - Enterocele
    - m/c : McCall culdoplasty.
    - Outdated : Moschowitz repair, Halban's repair.

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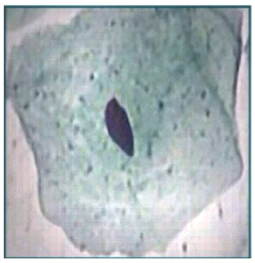
Maturation Index :

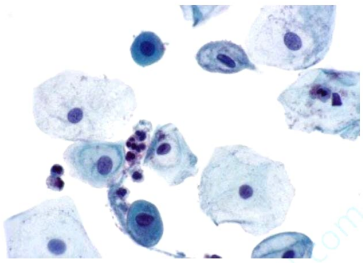
A/B/C

Parabasal cells :
- Menopause
- Before puberty
- Immediately after childbirth



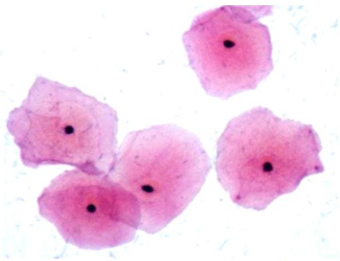
- Blue, hazy outline
- Big nuclei

Intermediate cells :
- Secretory phase
- Pregnancy



- Blue
- Small nuclei

Superficial cells :
Proliferative phase



- Eosinophilic (Pink)
- Pyknotic nuclei

Vaginal pH :

- Factors responsible for acidic pH :
  - Estrogen : Presence of glycogen (For conversion to lactic acid).
  - Döderlein bacilli.
- Vaginal defense lost : 10 days after birth.
- > 4.5 : Infections.
  - Bacterial vaginosis.
  - Trichomoniasis.
- Organism tolerating acidic pH : Candida (≤ 4.5 pH).