Genital Organs relaxation and prolapse

Samir Fouad Abdel Aziz
Professor Ob.Gyn
Al-Azhar University
Editor-in-chief www.arabicobgyn.net

Female Genital organ Prolapse

- Genital prolapse occurs when faults develop in the mechanisms for vaginal and uterine support
- Treatment of prolapse comprises up to 20% of gynecological surgical workload
- With an aging population this contribution will be increased

Support of genital organs

- Levator ani muscles maintain the pelvic organs and consists of 3 parts which are attached to the bony pelvis anteriorly and posterorly. Laterally attached to the white line (thickened fascia on the obturator internus muscle)
- The urethra, vagina and rectum pass through the levator hiatus and urogenital diaphragm as they exit the pelvis
- The posterior joining of the levator ani in the midline by the anococygeal ligament forms the levator plate

Support of genital organs

- The perineal body is central point for the attachment of the perineal musculature. The perineal body lies beneath and supports the pelvic diaphragm. The distal posterior wall of the vagina is fused to the ventral surface of the perineal body.
- The perineal body is important to support the rectum

- The normal tonic contraction of the levator ani muscles supports the pelvic organs from below and contributes to urinary and fecal continence

- Relaxation of the levator ani muscles allows descent of the pelvic organs and aids in urination and defecation

Levels of genital support

- Level I: proximal part of vagina, uterus: is stabilized by the parametrium, which includes *the cardinal ligaments *uterosacral ligaments
- Uterine and vault prolapse are both associated with damage to these supporting structures

- Level II: Midportion of vagina
- Attached laterally to the pelvic side walls by lower portion of the paracolpium to the arcus tendineus fascia pelvis (ATFP) which creates the superior lateral vaginal sulcus observed during vaginal examination
- Anteriorly: The pubocervical fascia stretches between the ATFP to support the anterior vaginal wall and urinary bladder (Damage to pubocervical fascia causes cystocele)
- Posteriorly: is suported centrally and laterally by rectovaginal septum, the most important fascia within which is Denonvilliers fascia which is fused to the inner layer of the posterior wall and the fascia attached to levator ani
- This attachment prevents the rectum from prolapsing into the vagina causing rectocele

- Level III: Distal vagina
- Is firmly attached to the surrounding structures including :
- 1-urethra and symphysis pubis anteriorly
- 2-levator ani muscle laterally
- 3-perineal musculature posteriorly

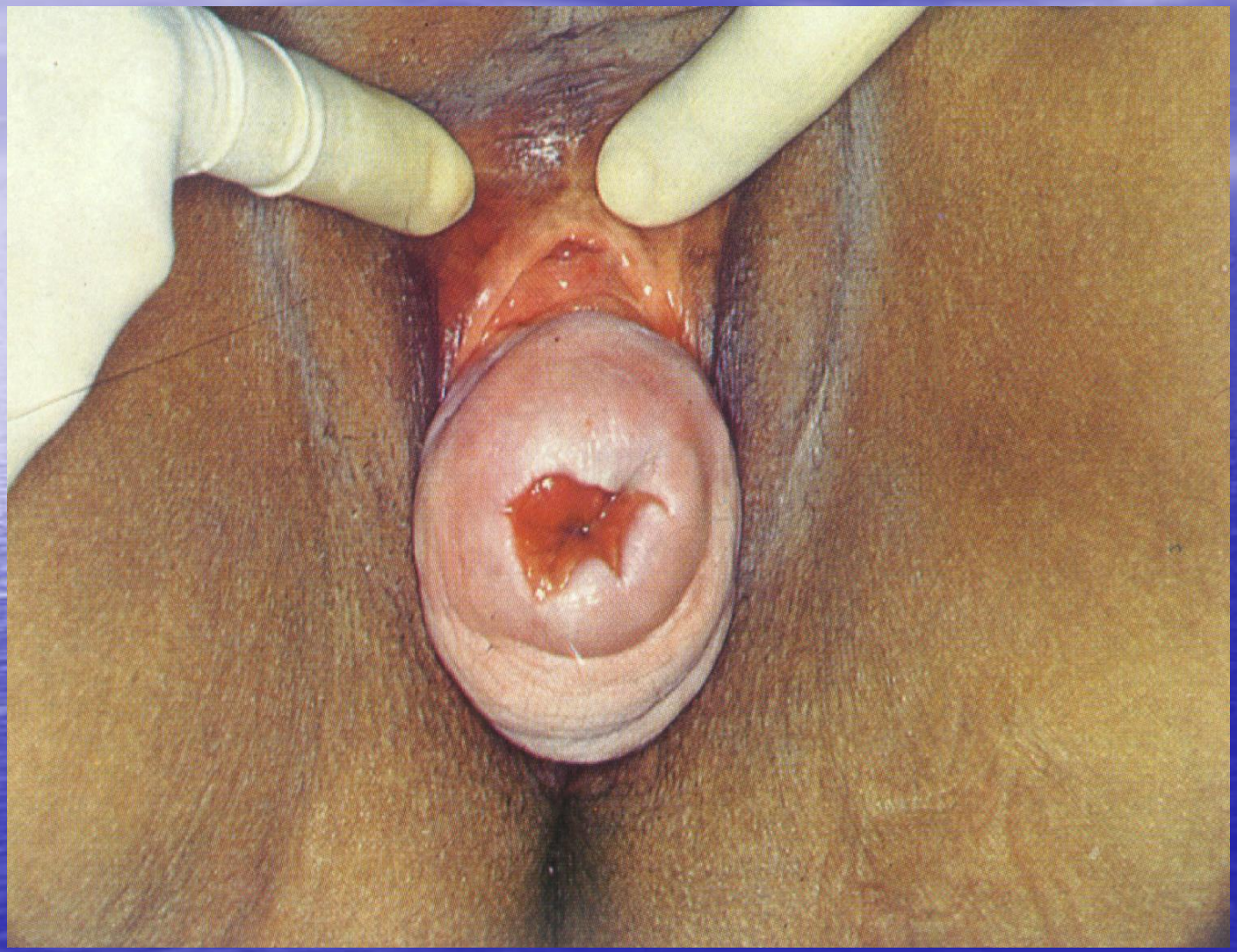
- Damage to the perineal musculature by childbirth or surgery are the common causes of relaxed vaginal outlet

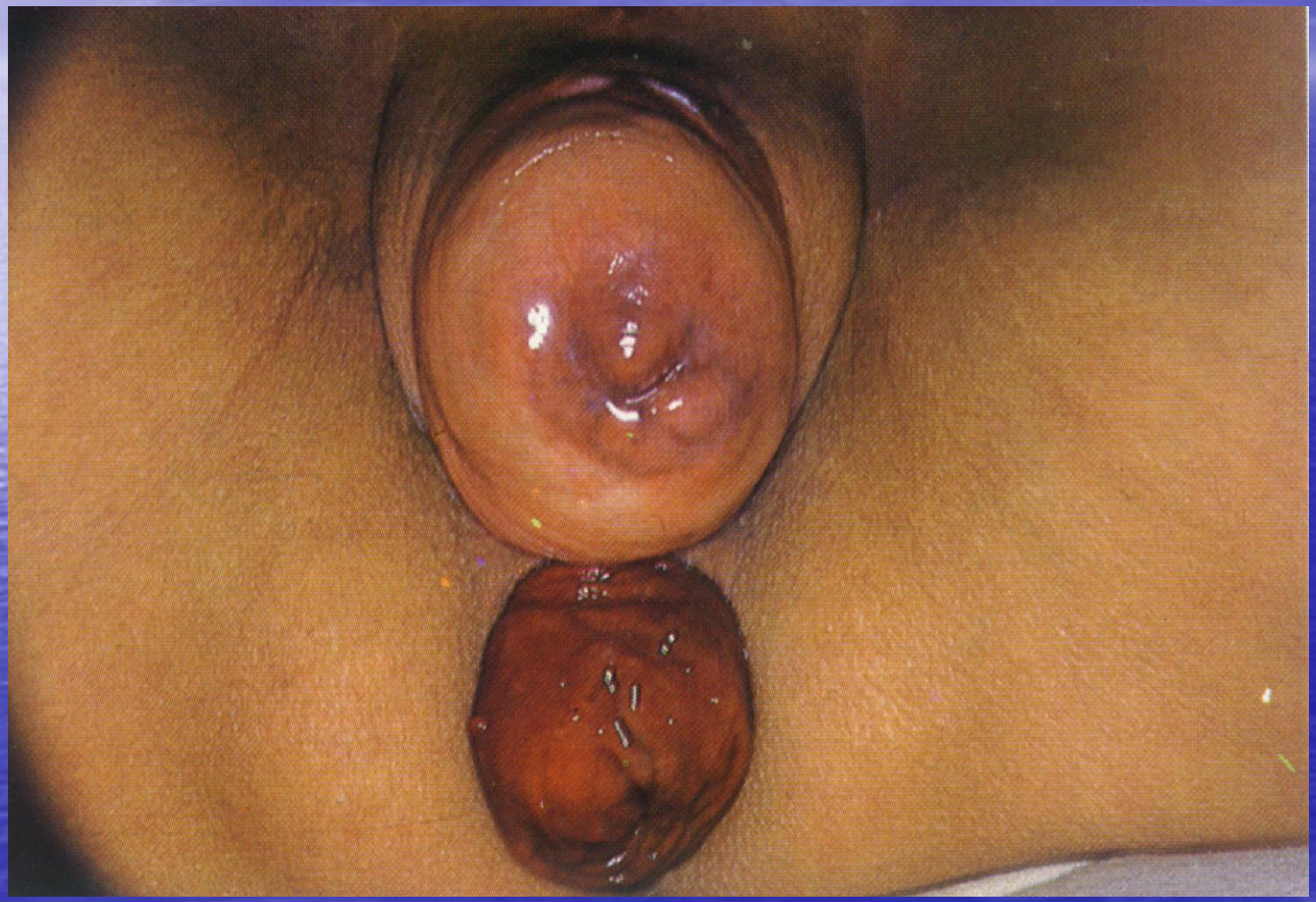
Types of genital prolapse

- **Vaginal prolapse**
- 1-Anterior wall: *cystocele *urethrocele *cysto-urethrocele
- 2-Posterior wall: *Rectocele *Enterocele
- 3-Vault prolapse

Uterine Prolapse

- First degree: cervix below the level of ischial spine but not outside introits
- Second degree: cervix protrude from the introits
- Third degree : complete procedentia : the whole uterus protrudes from the introits





Dr.samir fouad Abdel Aziz

Causes of prolapse

- 1-Childbirth
- 2-Congenital
- 3-connective tissue disease
- 4-Iatrogenic .e.g. after hysterectomy
- 5-Increase intra-abdominal pressure *obesity *chronic respiratory disease *pelvic mass

Childbirth

- Leads to prolapse secondary to mechanical damage: particularly Forceps delivery and Denervation of pelvic floor
- *prolonged labor increases the risk of denervation
- *Large baby also predisposes to denervation

Connective tissue disease and estrogen deficiency

- Some women may have a congenital predisposition to prolapse because of abnormal collagen metabolism
- Prolapse is associated with joint hyper mobility and reduced vaginal collagen content
- Prolapse is common in postmenopausal women with estrogen deficiency

Iatrogenic

- Division of the uterosacral and cardinal ligaments without reattachment to the vaginal vault at the time of hysterectomy predisposes to subsequent prolapse of the vaginal vault

- Risk of enterocele after vaginal hysterectomy probably due to inadequate approximation of the uterosacral ligaments at the time of surgery

Symptoms of prolapse

Asymptomatic: in mild cases, noted during examination.

Symptomes associated with more significant prolapse:

1-Feeling of a lump within the vagina

2-Observing a bulge if displacement is byoned the introitis

3-Dragging or aching discomfort, often localised to the back

4-bloody-stained vaginal discharge. If the prolapse is byoned the introitus and become excoriated

5-Coital proplems may be prominent *loss of sensation *dyspareunia *vaginal flatus

Symptoms tend to be worse at the end of the day and after the patient stands for long time and lessened in morning

Associated urinary symptoms

- 1-urinary stress incontinence due to urethral hypermobility
- 2-poor urinary stream if cysto-urethrocele results in kinking of urethra
- 3-recurrent UTI if voiding is incomplete
- 4-in extreme cases chronic retention with overflow incontinence may occur
- 5-cases of longstanding procedentia with kinking of prolapsed uerters may cause hydronephrosis

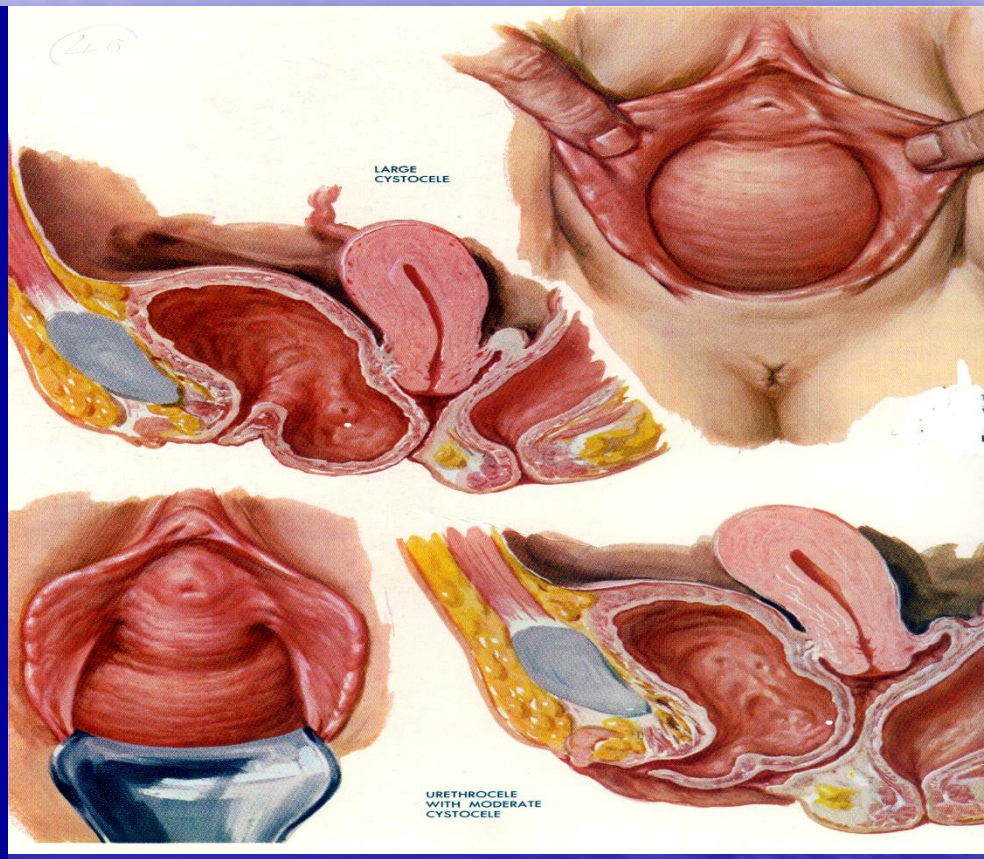
Diagnosis

- Diagnosis is Clinical
- Bimanual examination should be carried out to rule out pelvic mass
- Patient can be examined on left lateral position (Sim's position) or on her back using sim's speculum or casco' speculum after removing the anterior blade
- Sometimes it is necessary to examine the patient while standing up to reproduce the conditions under which prolapse occurs
- Recto-vaginal examination is necessary

- Always ask the patient to bear down and to use Valsalva's manoeuver

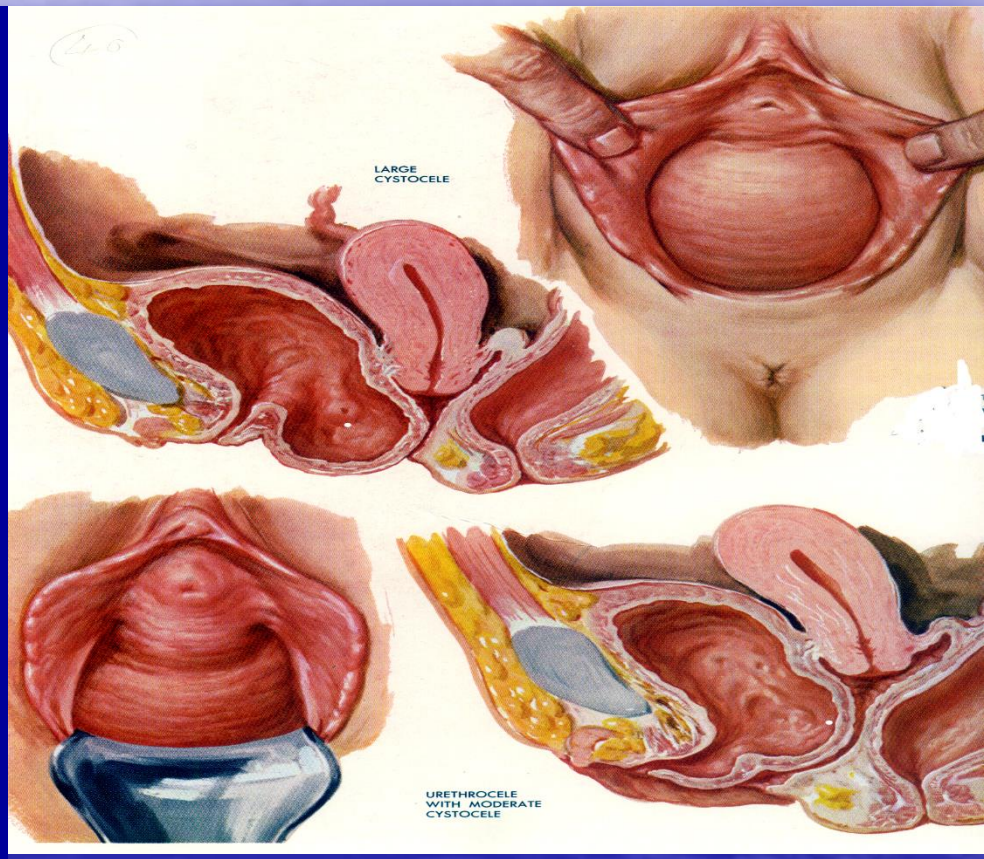
Cystocele

- Descent of the upper 2/3 of the anterior vaginal wall with the urinary bladder



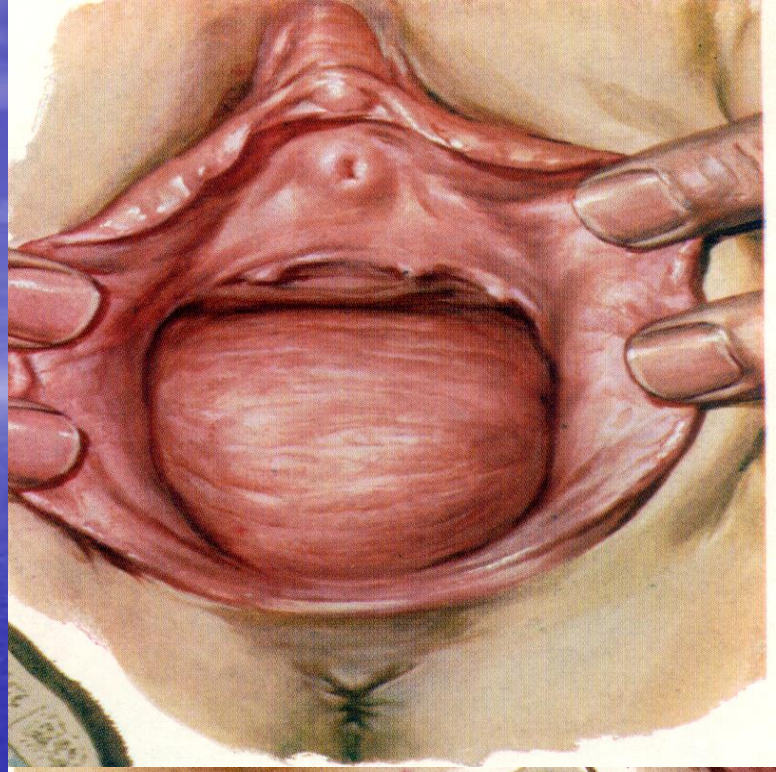
cystourethrocele

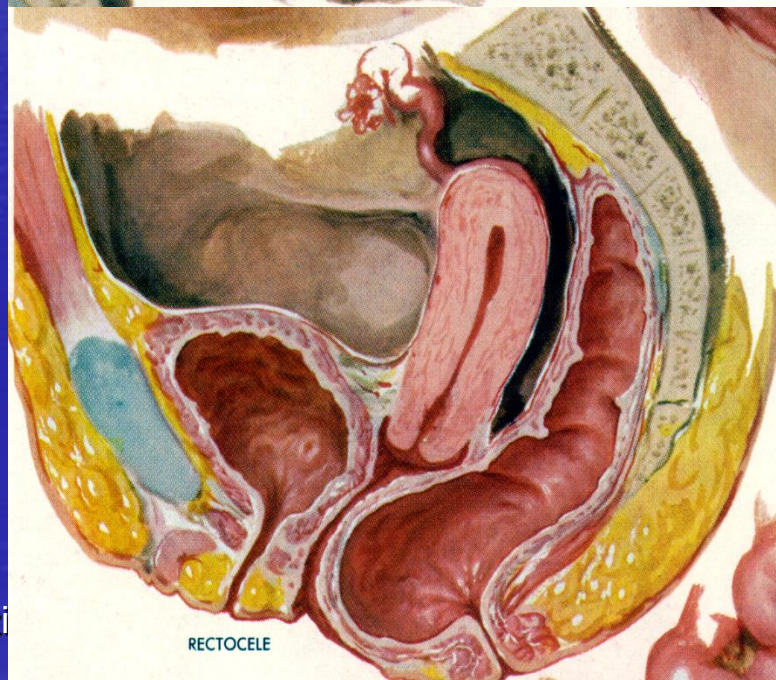
- Urethrocele is descent of the lower 1/3 of the vagina with the urethra, however it is usually accompanied by cystocele, so it is common to see both conditions together.



Rectocele

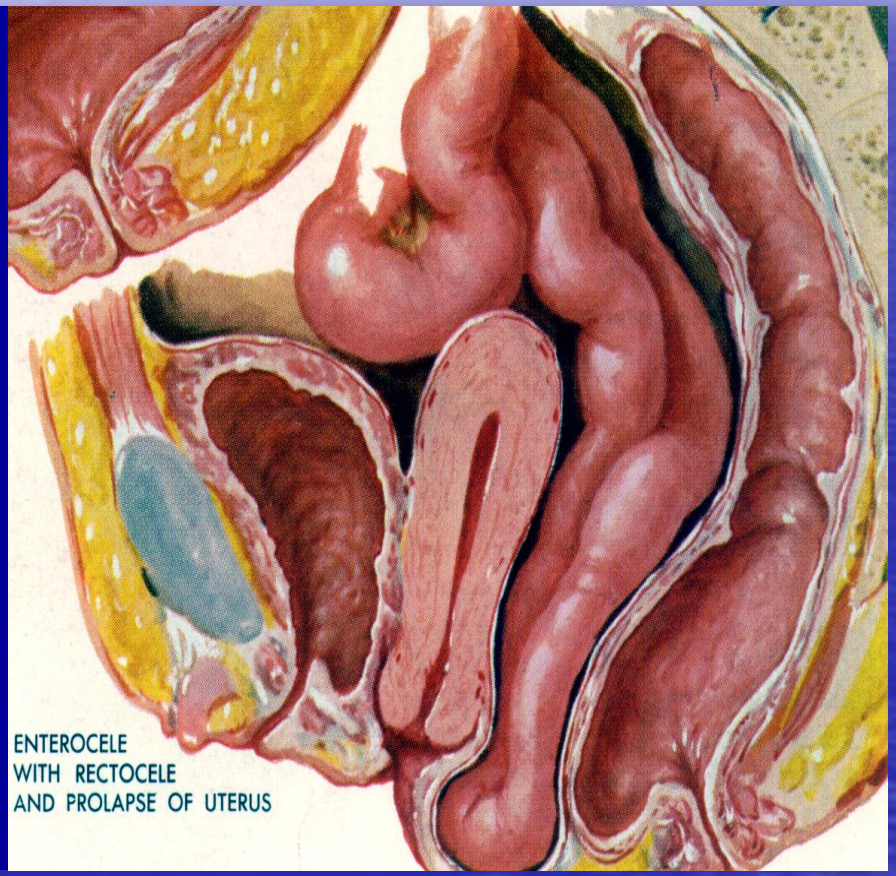
- Descent of the lower 1/3 of the posterior vaginal wall with the rectum. Or herniation of the rectum through the lower 1/3 of the posterior vaginal wall.





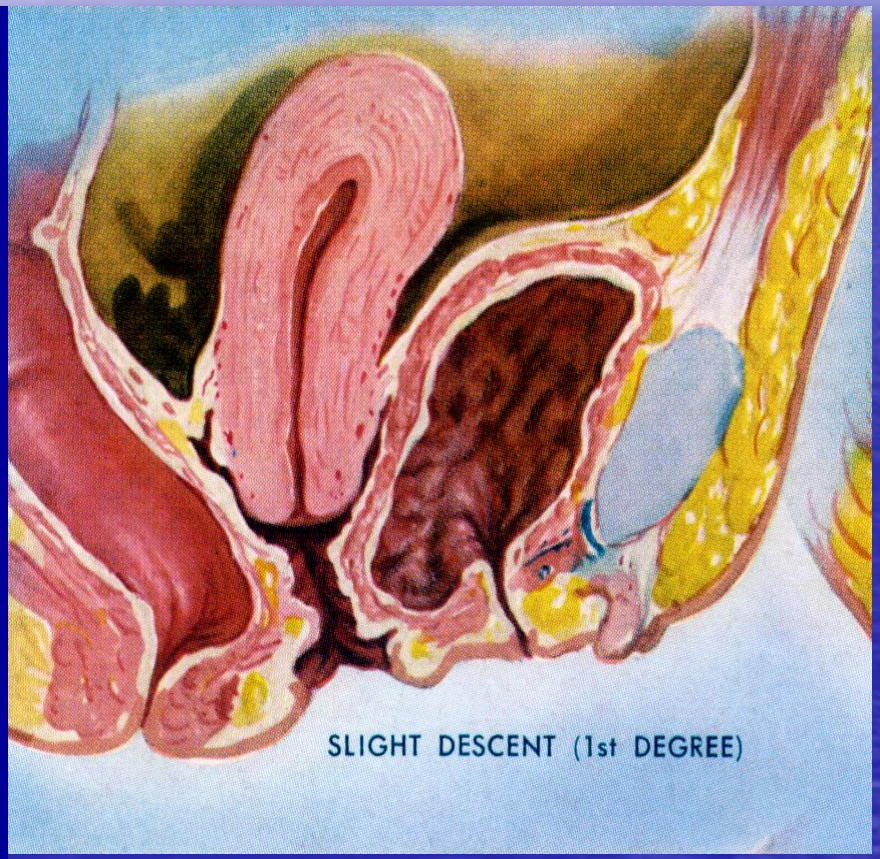
Enterocele

- Descent of the upper posterior wall of the vagina with peritoneum of Douglas pouch may containing small bowl



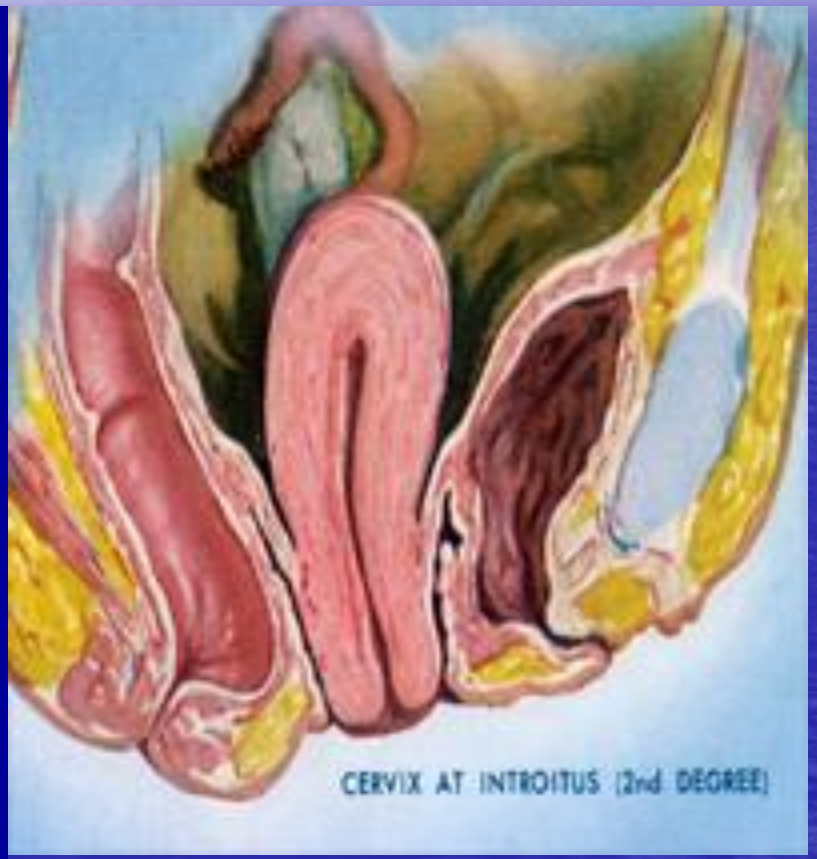
Uterine prolapse

- First degree
- The cervix is felt below the level of ischial spines but does not protrude outside the vaginal ring



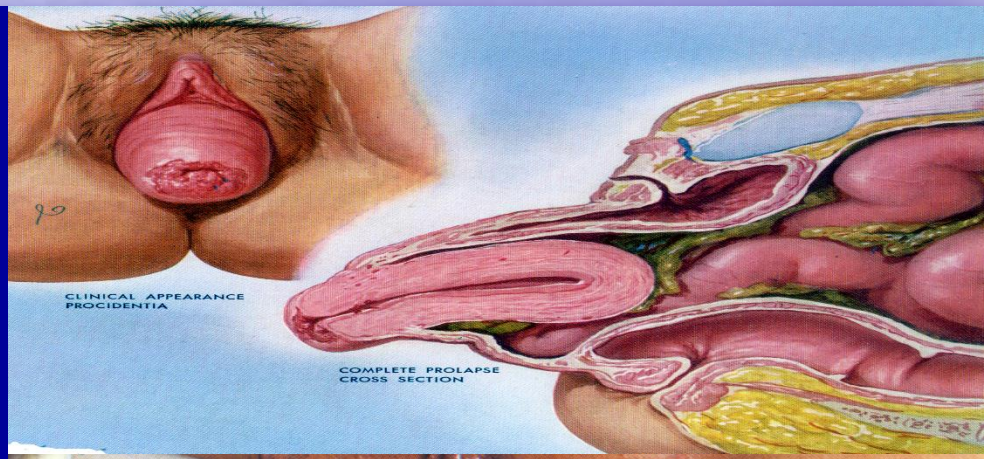
Second degree uterine prolapse

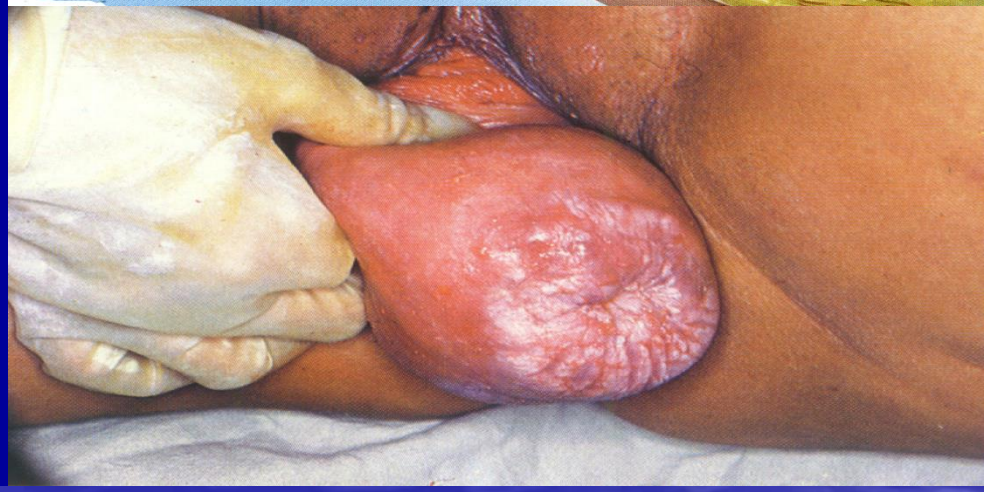
- The cervix (not the uterus) descent outside the vaginal ring and can bee seen. sometimes with trophic ulcer (decubitus ulcer) due to congestion with decreased blood flow



Third degree uterine prolapse (complete procedentia)

- The whole uterus is protruding from the vaginal ring and can be differentiated by holding the vagina between fingers
- In severe degree kinking of ureter can lead to hydronephrosis





Investigations

- Diagnosis is clinical and minimal additional investigations are required
- 1-CBC, urine analysis and pap smear
- 2-in cases with procedentia: serum creatinine and creatinine clearance with kidney ultrasound
- 3-concurent stress incontinence should be assessed by cystometery before surgery
- 4-pessary test: sometimes pessary is used to correct the prolapse to test if the symptoms relieved or not

Differential diagnosis

- Anterior wall prolapse:
- 1-cystocele
- 2-urethrocele
- 3-cystourethrocele
- 4-urtheral diverticulum
- 5-urethral caruncle

- Posterior wall prolapse
- 1-Rectocele
- 2-Enterocele
- 3-combined rectocele and enterocele
- 4-Bartholin's cyst
- 5-inclusion cyst

DD of uterine prolapse

- Uterine prolapse
- Polyp
- 1-from endocervix
- 2-from endometrium

- Elongated portiovaginal portion of cervix may be mistaken for prolapse

Management

- **Prevention**
- **Childbirth:**
- Appropriate management of labor
- Avoid prolonged labor
- follow criteria for forceps delivery
- **HRT:** postmenopausal estrogen supplementation increases collagen content and causes trophic alterations in vaginal epithelium, may increase biochemical strength of tissue and prevents prolapse
- Treating any causes of increased intra-abdominal pressure
- **Pelvic exercise** improves pelvic muscles tone and help prevent prolapse

management

- Conservative
- For mild cases:
- 1-simple treatment of exacerbating factors ,obesity, respiratory disease is likely to ameliorate the condition
- 2-HRT increases postmenopausal vaginal collagen turnover, but it is not known if it help in established cases
- Vaginal pessaries: patients who refuses surgery or who are a surgical risk patients

Management

- Definitive treatment is surgery
- Cystocele, cysto-urethrocele: anterior colporrhaphy .sometimes support of bladder neck with Kely's suture may be needed in cases with stress incontinence (SI).
- Rectocele: posterior colporrhaphy with perineorrhaphy
- Repair of entrocele if present
- Vault prolapse: sling operation with suspension in sacrum or sacrospinous ligament
- First-degree uterine prolapse: anterior colporrhaphy
- 2nd degree: if patient desire children .Manchester or fothrgill's operation otherwise vaginal hysterectomy
- 3rd or 2nd not desiring children: vaginal hysterectomy