SURGICAL ANATOMY

ANORECTUM

RECTUM — 18-20 cm — 3 Parts ← Upper 1/3 (Mobile) Peritoneum, Middle 1/3, Lower 1/3

Extent Rectosigmoid to Anorectal junction

↓

Puborectalis encircles the post. & lat aspect creating ano-rectal angle ≤ is 120°.

3 Lat. Curvatures. → Upper, Lower } convex to Lt.
→ Middle } convex to Rt.

On Mucosal aspect — curves corresponds ≅ semicircular folds (Houston's Valves)

Relations:

	Male	Female
Anterior	Bladder Seminal vesicles Ureters ← Prostate Urethra	Pouch of Douglas Uterus Cervix Post. Vag. Wall
Separated by Denonvillier's Fascia		
Lateral	Lat. Lig. Middle Rect. A. obt. Int. Ms Side wall Pelvis Lev. ani msc.	- DO -
Posterior	Sacrum & Coccyx (separated by Waldeyer's Fascia) Loose Areolar Tissue Fascial condensation Sup. Rectal A Lymphatics	- DO -

Fascial Layers are basis & are guide for surgeon.

Blood Supply

Sup. Rectal A. – Cont. of Inf Mesenteric A. Divides in R & L branches
Middle Rectal A. – Arises from Int. Iliac A
Inferior Rectal A. – Int. Pudendal A.

Venous Drainage by Corresponding Veins

Lymphatics → Upward
Sup. Rectal L-Nodes
Middle "

Anal Canal

Commences where rectum passes through Pelvic diaphragm and ends at anal verge

Anorectal Jn. → Anorectal bundle or ring (Felton P/R)

Length → 3.8 – 4 cm.

Musculatures

Internal Sphincter

* Cont. of of circular coat of rectum ends at anal orifice
* Involuntary
* 2.5 cm long & 2-5 mm thick
* Pearly white - Transversely placed Fibres.
* Spasm & contracture responsible for fissure and other anal affections.

The Longitudnal Muscle

* Cont. of Long. Muscle coat of rectum
* intermingle ē pubo rectalis
* Fibres fan out through lowest part of Ext. Sphinc.
  – insert in anal & perianal skin.
* Attached to Epithelium.

Corrugator Cutis ani muscle

Lie beneath anal skin

The External Sphincter

But Goligher considers it one muscle.

* Pink
* Voluntary

Intersphincteric Space between Ext. & Int. Sphincter

Contains 8-12 apocrine glands – Infection

Route for spread of Pus

Puborectalis & Ext. Sphincter

Responsible for continence

Weaknes → Rectal or Vaginal Prolapse.

Mucous Membrane

8–12 Long. folds – Columns of morgagni

Below anal valves → Dentate Line → Sq. Epithelium

Site of Fusion of Proctodaeum and post allantoic gut

Separates

Above	Below
Cubical Epith	from Sq. Epith
Autonomic N. (insensitive)	from Spinal N. (very sensitive)
Portal V. System	from Syst. V. Syst.

Arterial Supply:- Branches from Sup., middle & inf. haemorrhoidal A.

Rich plexus (submucous & intermural)

* Division of Sup. & Middle Rectal A. does not affect vascularity

Venous Drainage Same as A.

Sup H.V
Middle H. V. (Sup. Rectal V.) → Drain into Inf. Mesenteric V. → Portal

Inf. H.V. – Drain Lower half anal canal & Subcut. perianal plexus of V. → Join Ext. Iliac V.

Lymphatics

- Upper Half Drain into Post. Rectal L. Nodes ↓ Paraaortic L. Nodes via Inf. Mesen. V.
- Lower Half Drains → Sup. Ing. L. Nodes ↓ Deep Ing. L. Nodes

Symptoms of Rectal Diseases

Common / Serious / Any age

* Bleeding
* Altered Bowel Habits (Spurious Diarrhoea) Ca
* Discharge — Mucus / Pus
* Tenesmus
* Prolapse
* Pruritis
* Loss of weight

Signs Elicited by

Inspection — Haemorrhoides / Fissure / Fistula

Digital Examination — Growth, Discharge, Prostate

Proctoscopy - internal inspection (10cm)

Sigmoidoscopy - 25 — 60 cm

- Rigid
- Flexible

Barium Enema

Injuries

1. Fall
2. During Child Birth
3. During procedure
4. Self inflicted

Thorough assesment is required
Must Look for associated injuries to Bladder, urethra

Intraperitoneal Rupture → Suturing or Colostomy

Injuries Below Pelvic diaphragm – usually extensive
Require colostomy (Diversion)

Foriegn Bodies

* Usually self induced
* Psychiatric Background
* R_x by removal under GA

Proctitis

Inflammation of Rectal mucosa

→ Tenesmus
→ Blood / Mucus / Pus
→ Malaise / Pyrexia

O/E Swollen Red mucosa

Bx is must

Specific Causes

Clostridium difficile
Bacillary Dysentry
Amoebiasis
Tuberculosis
Gonococcal

Non Specific

Mucosa / submucosa

Unknown Aetiology 10% cases may extend to whole colon.

Rx :- Self Limiting
Rule out specific causes
Salazopyrin

Prolapse Rectum

Partial

* Mucosa / submucosa not more than 1·25 – 3·75 cm
* Not more than double layer of mucus membrane
* Extremes of Age

Infants → In children due to straight rectum (undeveloped sacral curve)

Children Diarrhoea
Ch. Cough
Malnourished

Adults → ± Haemorrhoides
→ III° Prolapse
→ After fistula surgery
→ Seldom Progressive

Rx :- Infants / young Children
→ Digital Reposition
→ Good nourishment
→ Submucous inj of 5% Phenol in almond oil
→ Thiersch's operation

Adults → Sclerotherapy
→ Excision of Mucosa

Complete (Procidentia)

↓ ♀ > ♂ 6 time
Less common
Rectum intussusception on itself > 3·75 cm upto 10-15 cm
Full Thickness
All coats of Rectum

→ Anteriorly pouch of peritoneum ± abd contents
→ Series of circular folds
→ Patulous Anus

D/D Ileocaecal Intussception

Rx → Thiersch op.
Ripstein's op.
Anterior Resection