Common Anorectal Disorders
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No Financial Disclosures
Anorectal Conditions

✓ Introduction
✓ Surgical Anatomy
✓ Examination of the Anus
✓ Common Anal Conditions
Introduction

Anal and perianal disorders makeup About 20% of all outpatient Surgical referrals. These conditions are extremely distressing and embarrassing patient often put up with symptoms for long time, before seeking medical care.
## The Common Anal Symptoms

- Anal bleeding
- Anal pain and discomfort
- Perianal itching and irritation
- Something coming down
- Perianal discharge
Surgical Anatomy

The anal canal 1.5” (4 cm) long and is directed downward and backward from the rectum to end at the anal orifice.

The mid of anal canal represents the junction between endoderm and ectoderm.
Anorectal Anatomy

Arterial Supply
- Inferior rectal A
- Middle rectal A

Venous drainage
- Inferior rectal V
- Middle rectal V
- 3 hemorrhoidal complexes
  - L lateral
  - R antero-lateral
  - R posterolateral

Lymphatic drainage
- Above dentate: Inf. Mesenteric
- Below dentate: internal iliac

Nerve Supply
- Sympathetic: Superior hypogastric plexus
- Parasympathetic: S234 (nerviergentis)
- Pudendal Nerve: Motor and sensory

Anal canal
Anal verge
Lining of the Anal Canal and Low Rectum

The lower ½ is lined by squamous epithelium and the upper ½ by columnar epithelium. So carcinoma of the upper ½ is adenocarcinoma. Where as that arising from the lower part is squamous tumor.
Blood Supply

The blood supply of upper ½ of the anal canal is from the superior rectal vessels. Whereas that of the lower ½ is supply of the surrounding anal skin the inferior rectal vessels which derives from the internal pudendal ultimately from the internal iliac vessels.
Lymphatic Drainage and Nerves Supply

- The lymphatic above the mucocutaneous junction drain along the superior rectal vessels to the lumbar lymph nodes, whereas below this line drainage is to the inguinal lymph nodes.

- The nerve supply to the upper ½ via autonomic plexus and the lower ½ is supplied by the somatic inferior rectal nerves terminal branch of the pudendal nerve. So the lower ½ is sensitive to the prick needle.
Anal Sphincter

• The internal anal sphincter of involuntary muscle, which is the continuation of the circular muscles of the rectum.

• The external sphincter of the voluntary muscles, which surrounds the internal sphincter and comprises 3 parts
  ✫ subcutaneous the lower most portion of the external sphincter
  ✫ superficial part
  ✫ deep part
Perspectives
Examination of the Anus and Rectum

This requires careful attention to circumstances (couch, light, gloves). The Sims (left lateral position) is satisfactory. The examination proceed by:

- inspection
- digital examination with index finger
- exam positions and illumination
- description of the exam
- proctoscopy, anoscopy
- sigmoidoscopy
Anorectal examination

- **Things never to be forgotten:**
  - Explain necessity of procedure and reassure the patient
  - Explain the procedure
  - Tell the patient that is usually uncomfortable but not painful. Get informed consent
  - Ensure adequate privacy
  - Obtain services of chaperone if appropriate
  - Expose the patient from waist to knee and explain the position of examination.
  - Equipment: plastic glove + lubricating jelly + good light
Inspection
Digital Rectal Examination

Prostate cancer
Light
Document/Description of your Exam

Posterior

Left

Right

Anterior
Anoscopy
Proctoscopy
Sigmoidoscopy
Common Ano Rectal Diseases

Anal Abscess
Anal Fistula
Anal Cancer
Anal Fissure
Cancer of the Anus
Cancer of the Rectum
Cryptitis
Enlarged Papillae
Fecal Incontinence

Hemorrhoids
Levator Syndrome
Pilonidal Cyst
Polyps
Proctalgia Fugax
Proctitis
Pruritus Ani
Rectal Prolapse
Rectocele
Venereal Warts (Condyloma)
Problems in the treatment of Anorectal abscess

- Anal Fistula
- Recurrence
- Inflammatory bowel disease
Clinical Presentation
Clinical Presentation – cont.

- Acute pain
- High fever
- Swelling
- Tenderness with induration

Treatment:
- Incision and drainage
Pathology

The infection usually starts in one of the crypts of Morgagni and extends along the related anal gland to the intersphincteric plane where it forms as abscess. Soon it tracks in various directions to produce different types of abscesses which are classified as follows:

1. Perianal abscess (60%)
2. Ischiorectal abscess (30%)
3. Sub mucous abscess (5%)
4. Pelvirectal or Supralevator abscess
Types of Abscesses

- Supralevator abscess
- Perianal abscess
- Internal sphincter abscess
- External sphincter abscess
- Ischioanal (ischiorectal) abscess
- Intersphincteric (intramuscular or submucosal) abscess
Anal Fistula

Defined as track lined by granulation tissues, which connects deeply in the anal canal or rectum and superficially on the skin around the anus. It usually result from an anorectal abscess. However the aetiology is uncertain. Anal fistulas have well recognized association with crohn’s disease, UC, TB, colloid carcinoma of the rectum and lympho granuloma venercum.
Parks classification according to relation of anal sphincter

- Inter sphincteric (70%) low level anal fistula
- Trans-sphincteric (25%) high level anal fistula
- Supra sphincteric fistula (4%).
- Extra sphincteric (1%) rare type include the tract passes outside all sphincter muscles to open in the rectum.
Types of Fistulas

A. Inter-sphincteric Anal Fistula
B. Transsphincteric Anal Fistula
C. Supra-sphincteric Anal Fistula
D. Extrasphincteric Anal Fistula

Park's Classification
Clinical Presentation

Initial Phase

Chronic Phase

Peri-Anal Abscess

Fistula
Surgical Treatment
A Surgical Dilema

Recurrence

Incontinence
Clinical Assessment

ERUS
Good Sall’s Rule
# Transsphincteric Fistula Management

<table>
<thead>
<tr>
<th>Method</th>
<th>Recurrence Rate</th>
<th>Impaired Continence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cutting Seton</td>
<td>0-25%</td>
<td>0-73%</td>
</tr>
<tr>
<td>Advancement Flap</td>
<td>2-40%</td>
<td>0-20%</td>
</tr>
<tr>
<td>Fibrin Glue</td>
<td>20-83%</td>
<td>0% ?</td>
</tr>
<tr>
<td>Fistula Plug</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lift Procedure</td>
<td></td>
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</table>
Cont
Hemorrhoids

- They are part of the normal anoderm cushions.
- They are not veins but sinusoids (no muscular wall). Bleeding is mostly arterial from presinusoidal arterioles.
- They contribute 15-20% of the normal resting pressure and feed vital sensory information.
- 3 main cushions are found:
  - L lateral
  - R anterior
  - R posterior
- But can be found anywhere in anus.
Hemorrhoids
Risk Factors

1. Constipation and straining
2. Low fiber high fat/spicy diet
3. Prolonged sitting in toilet
4. Pregnancy
5. Aging
6. Obesity
7. Hereditary Factors
### Hemorrhoids Classification

<table>
<thead>
<tr>
<th>Origin in relation to Dentate line</th>
<th>Degree of prolapse through anus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Internal: above DL</td>
<td>• 1(^{st}): bleed but no prolapse</td>
</tr>
<tr>
<td>2. External: below DL</td>
<td>• 2(^{nd}): spontaneous reduction</td>
</tr>
<tr>
<td>3. Mixed</td>
<td>• 3(^{rd}): manual reduction</td>
</tr>
<tr>
<td></td>
<td>• 4(^{th}): not reducible</td>
</tr>
</tbody>
</table>

**Diagram:**
- External hemorrhoid (Origin below dentate line (external rectal plexus))
- Internal hemorrhoid (Origin above dentate line (internal rectal plexus))
- Mixed hemorrhoid (Origin above and below dentate line (internal and external rectal plexus))
The diagnosis of hemorrhoids is based on clinical assessment and proctoscopy.

Further investigations should be based on a clinical index of suspicion; colonoscopy.
Complications

Thrombosis

**Treatment:** Less than 72 hours & more than 72 hours
# Hemorrhoids Treatment:

<table>
<thead>
<tr>
<th>Conservative Measures</th>
<th>Grade 1&amp;2</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Dietary modification: high fiber diet</td>
<td></td>
</tr>
<tr>
<td>• Stool softeners</td>
<td></td>
</tr>
<tr>
<td>• Bathing in warm water</td>
<td></td>
</tr>
<tr>
<td>• Topical creams <strong>NOT MUCH VALUE</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minimally Invasive</th>
<th>Indicated in failed medical treatment</th>
</tr>
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<tbody>
<tr>
<td>• injection sclerotherapy</td>
<td></td>
</tr>
<tr>
<td>• Rubber band ligation</td>
<td></td>
</tr>
<tr>
<td>• Laser photocoagulation</td>
<td></td>
</tr>
<tr>
<td>• Cryotherapy freezing</td>
<td></td>
</tr>
<tr>
<td>• Stapled hemorrhoidectomy</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Surgical</th>
<th>Indications:</th>
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</thead>
<tbody>
<tr>
<td>1. Failed other treatments</td>
<td></td>
</tr>
<tr>
<td>2. Severely painful grade 3&amp;4</td>
<td></td>
</tr>
<tr>
<td>3. Concurrent other anal conditions</td>
<td></td>
</tr>
<tr>
<td>4. Patient preference</td>
<td></td>
</tr>
<tr>
<td>5. Quality of Life</td>
<td></td>
</tr>
<tr>
<td>6. Pre-op informed consent including post-op instructions</td>
<td></td>
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</tbody>
</table>
DISPOSABLE PROLAPSE AND HEMORRHOIDS CUTTING STAPLE (PPH)
Closed vs Opened Hemorrhoidectomy
Anal Fissure

- Linear tears in the anal mucosa exposing the internal sphincter
- 90% are posterior
- Caused mainly by trauma (hard Stool as well as diarrhea). Followed by increased sphincter tone and ischemia.
- Other causes: IBD, Ca, Chronic infections
Pain!
## Anal Fissure Clinical Assessment

<table>
<thead>
<tr>
<th>Acute</th>
<th>Chronic</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sever acute pain</td>
<td>• Pain mild to moderate</td>
</tr>
<tr>
<td>• Fresh blood spotting</td>
<td>• More than 6 weeks</td>
</tr>
<tr>
<td>• Clean linear tear</td>
<td>• Hypertrophied Int. sphincter</td>
</tr>
<tr>
<td></td>
<td>• Skin tag</td>
</tr>
<tr>
<td></td>
<td>• Granulation around the edge</td>
</tr>
</tbody>
</table>
## Anal Fissure Treatment

<table>
<thead>
<tr>
<th>Conservative</th>
<th>Surgical</th>
</tr>
</thead>
<tbody>
<tr>
<td>• High fiber diet</td>
<td>Lateral sphincterotomy</td>
</tr>
<tr>
<td>• Medical sphincterotomy:</td>
<td>(15% minor continence defect)</td>
</tr>
<tr>
<td>– NTG 0.2%</td>
<td></td>
</tr>
<tr>
<td>– Ca channel blockers</td>
<td></td>
</tr>
<tr>
<td>– Butulinum toxins</td>
<td></td>
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</tbody>
</table>

Beware for: elderly, poor preop continence, chronic diarrhea, History of prior surgery.
Rectal Prolapse

- Rectal prolapse is the abnormal movement of the rectal mucosa down to or through the anal opening.
Rectal prolapse

• **Mucosal prolapse** is more often seen in children below 3 yrs of age following an attack of diarrhea or whooping cough, and if it occurs in adult is usually associated with hemorrhoids.

• **Complete rectal prolapse** is seen more commonly in elderly women who have a habit of excessive straining during defecation. (mucosal prolapse may be pre-full rectal prolapse)

• Rectal prolapse is often associated with other conditions such as:
  * Pinworms (Enterobiasis)
  * Cystic fibrosis
  * Malnutrition and malabsorption (Celiac disease)
  * Constipation
  * Prior trauma to the anus or pelvic area
Rectal prolapse

- **Symptoms:** The main symptom is a protrusion of a reddish mass from the anal opening, especially following a bowel movement.

- **Treatment:**
  - Treating the underlying condition
  - The rectal mass may be returned to the rectum manually
  - Surgical correction: abdominal surgery vs perineal surgery
Anal Warts (condyloma acuminata)
Cont.

• First appear as tiny spots or growths.
• May grow larger than the size of a pea.
• Asymptomatic vs itching, bleeding, mucous discharge or lumps in the anal area.
• HPV Virus, sexually transmitted disease, anal intercourse +/-
• Strongly related to anal cancer
HPV Infection risk for anal cancer:

1. HPV Infection:
   - previous cervical cancer or CIN III
   - Wife with cervical cancer
   - Numerous lifetime sexual partners

2. Immunosuppression:
   - Any solid organ transplant
   - HIV +

3. Anal Intercourse: MSM
HPV Prevalence

• Most Common STI (sexually transmitted Infections)
• 80% risk of infection by age 50
• 20 million Americans (15% adult population) are DNA + for anogenital HPV at any given time.
• In terms of incidence cervix and rectum almost 100% attributable to HPV.
Anal HPV
A Prevalent Problem!

Women
• Women 27% of general population
• 42% Sex Workers
• 76% HIV +

Homosexual men (MSM)
• Seattle: 87% HIV +; 57% HIV –
• San Francisco 93% HIV +; 61% HIV –
AIN (Anal Intraepithelial Neoplasia)

- Premalignant lesion cause by hpv
- Analog to CIN
- VIN
- VaIN
- PIN
- PaIN
Squamocolumnar Junctions
Anal PAP
Treatment

• High Resolution Anoscopy:
  – Focal Destruction with fulguration, infrared coagulation or bovie
• Serial Exams
• Vaccines: Most administer before infection, Girls and women 9-26 years many under investigation.
• Not Proven effective in men or immunosuppressed
• Prevention: aggressive screening and ablation (MSM, women with cervical or vulvar lesions, all HIV, all transplant recipients.)
Thank You