



Anorectal Conditions

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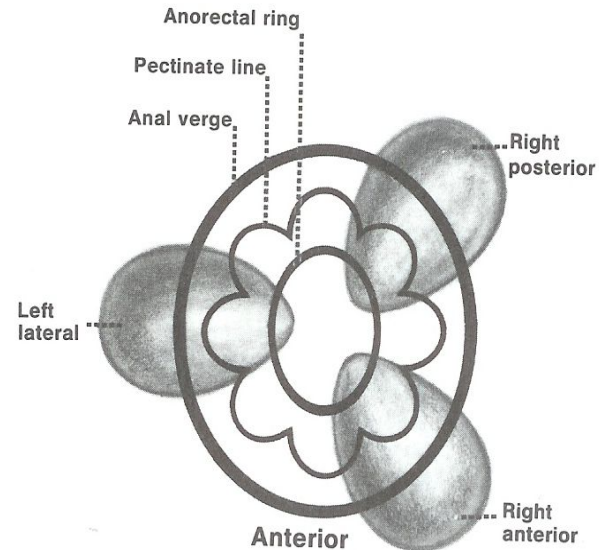
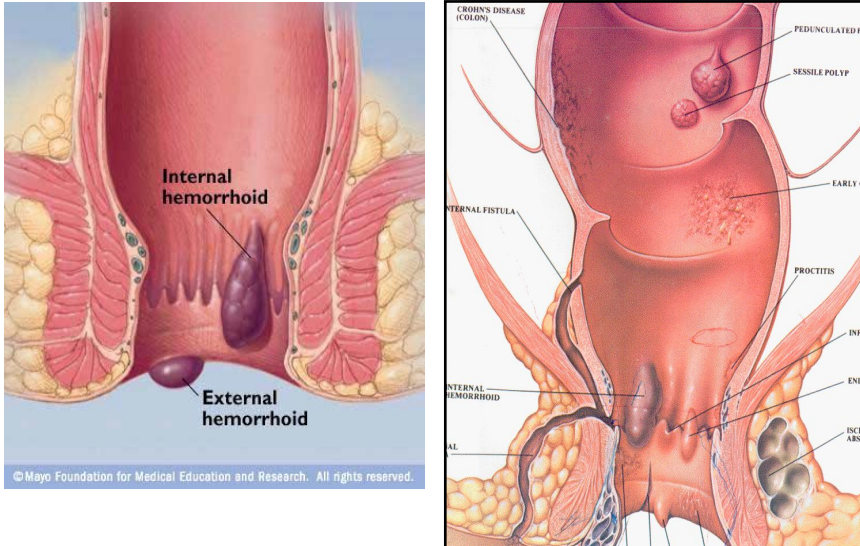
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HEMORRHOIDS

ANATOMY:

Hemorrhoids are normal structures in our bodies that help in controlling the continence (part of continence mechanism). When these hemorrhoids get diseased and the symptoms start appear, they called diseased hemorrhoids. Each person has hemorrhoid. (Hemorrhoids is vessel & The diseased hemorrhoids comes with pain, bleeding or prolapse)

- right anterior, right posterior and left lateral positions
- those originating above the dentate (pectinate) line which are termed **internal**
- those originating below the dentate line which are termed **external**



Note : - Internal hemorrhoid (will never get pain unless it is ischemic or distended).



When it becomes larger it goes out → prolapsed or bleeding. That are the only symptoms from internal hemorrhoid

Note : - External hemorrhoid symptoms → lump and severe pain because of thrombosis. Rarely the thrombus will rupture → bleeding



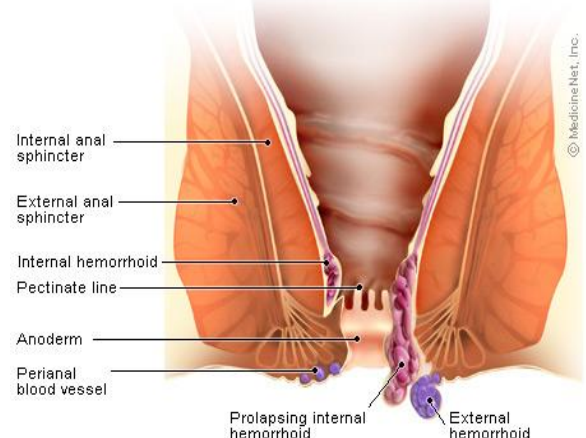
PATHOPHYSIOLOGY:

Internal component > constipation → straining → increase intraabdominal pressure → increase pressure inside pelvis → decrease venous return → congestion (engorgement) → repeated attacks → vessel dilated and become bigger → either of these two situations will happen > 1- rupture and bleed or 2- Become prolapsed. (Internal component) (Pathophysiology of hemorrhoids).

External hemorrhoids: with external engorgement and limited space. Also, they covered by squamous epithelium and skin → thrombosis → pain (because the nerve supply is somatic).

- represent engorgement or enlargement of the normal fibrovascular cushions lining the anal canal.
- chronic straining secondary to constipation or occasionally diarrhea
- fibrovascular cushions lose their attachment to the underlying rectal wall.
- prolapse of internal hemorrhoidal tissue through the anal canal.
- the overlying mucosa becomes more friable and the vasculature increases.
- With overlying thinning of the mucosa and vascular engorgement, subsequent rectal bleeding occurs.

Formation of hemorrhoids



CLASSIFICATION:

Classified by **history** and not by physical examination. There are no grades for external hemorrhoids. HEMORRHOIDS (Internal)>

- Grade I - bleeding without prolapse.
- Grade II - prolapse with spontaneous reduction.
- Grade III - prolapse with manual reduction. (Patient pushed it inside)
- Grade IV - incarcerated, irreducible prolapse.

SYMPTOMS:

- Internal hemorrhoids diseased > bleeding +/- prolapse (painless)
- External hemorrhoids disease > Thrombosis ⇒ severe pain and lump

- bright red blood per rectum or a prolapsing anal mass.
- with, or following, bowel movements, is almost universally bright red, and very commonly drips into the toilet water.
- Blood may also be seen while wiping after defecation.
- prolapse usually occurs in association with a bowel movement,
- may also prolapse during walking or heavy lifting as a result of increased intra-abdominal pressure.
- extreme pain, bleeding and occasionally signs of systemic illness in case of strangulation.

PHYSICAL EXAMINATION:

- Patients should be examined in the left lateral decubitus position
- any rashes, condylomata, or eczematous lesions.
- external sphincter function
- Any abscesses, fissures or fistulae
- lubricated finger should be gently inserted into the anal canal while asking the patient to bear down
- the resting tone of the anal canal should be ascertained as well as the voluntary contraction of the puborectalis and external anal sphincter.
- masses should be noted as well as any areas of tenderness.
- internal hemorrhoids are generally not palpable on digital examination.
- anoscopy is performed.
- The side viewing anoscope should be inserted with the open portion in the right anterior then right posterior and finally the left lateral position
- Hemorrhoidal bundles will appear as bulging mucosa and anoderm within the open portion of the anoscope.

EVALUATION OF RECTAL BLEEDING:

- rule out rectal cancer.
- young individual with bleeding associated with hemorrhoidal disease and no other systemic symptoms, and no family history, perhaps anoscopy and rigid sigmoidoscopy
- older individual, with either a family history of colorectal cancer, or change in bowel habits, a complete colonoscopy should be performed to rule out proximal neoplasia.

TREATMENT:

How do we treat hemorrhoids? We have to document the presence of hemorrhoids by history and physical examination. Part of physical examination> inspection for any prolapse or external thrombosed hemorrhoids> do rectal exam (to rule out malignancy or any mass) you will never be able to feel hemorrhoids because they are so soft> then put Proctoscope and look for hemorrhoids> If it is bleeding> rule out some diseases.

We classified the patients before treatment into two groups according to their risk of cancer> 1-Low risk: <50 + no family> history sigmoidoscopy (look for first 25-30 cm of large bowel (rectum+ sigmoid colon)
2-High risk: elderly (age >50) + family history + anyone with dark blood is high risk + anyone with recent change habit > do full colonoscopy to rule out more proximal source of bleeding other than hemorrhoids.

Varies from simple reassurance to operative hemorrhoidectomy. Treatments are classified into three categories>

- 1) Dietary and lifestyle modification.
- 2) Non operative/office procedures.
- 3) Operative hemorrhoidectomy.

1) Dietary and lifestyle modification.

- the main goal of this treatment is to minimize straining at stool. (To treat the underlying problems which is constipation)
- achieved by increasing fluid and fiber in the diet, recommending exercise, and perhaps adding fiber agents to the diet such as psyllium.
- if necessary, stool softeners may be added.
- "you don't defecate in the library so you shouldn't read in the bathroom".

2) Office Treatments.

A) RUBBER BAND LIGATION

- Grade I or Grade II hemorrhoids and, in some circumstances, Grade III hemorrhoids.
- Complications include bleeding, pain, thrombosis and life threatening perineal sepsis.
- successful in two thirds to three quarters of all individuals with first and second degree hemorrhoids.
- Bayer, Myslovaty, and Picovsky followed 2,934 patients banded over a 12 year period.
- Seventy-nine percent required no further therapy, while eighteen percent required repeat banding due to recurrence.
- Hemorrhoidectomy was necessary in 2.1% related to persistent symptom.

B) INFRARED COAGULATION

- generates infrared radiation which coagulates tissue protein and evaporates water from cells.
- is most beneficial in Grade I and small Grade II hemorrhoids.

C) BICAP ELECTROCOAGULATION

- It works, in theory, similar to photocoagulation or to rubber banding.
- the probe must be left in place for ten minutes.
- poor patient tolerance minimized the effect of this procedure.

D) SCLEROTHERAPY

- Injection of an irritating material into the submucosa in order to decrease vascularity and increase fibrosis.
- Injecting agents have traditionally been phenol in oil, sodium morrhuate, or quinine urea.

E) OTHER - Manual anal dilatation was first described by Lord .

- Cryotherapy was used in the past with the belief that freezing the apex of the anal canal could result in decreased vascularity and fibrosis of the anal cushions.

3) Surgical Treatment of Hemorrhoids.

HEMORRHOIDECTOMY

- The triangular shaped hemorrhoid is excised down to the underlying sphincter muscle.
- Wound can be closed or left open
- stapled hemorrhoidectomy has been developed as an alternative to standard hemorrhoidectomy

Hemorrhoids Notes from Surgical Recall

Which type, internal or external, is painful?

External, below the dentate line

If a patient has excruciating anal pain and history of hemorrhoids, what is the likely diagnosis?

thrombosed external hemorrhoid (treat by excision)

What are the causes of hemorrhoids?

Constipation/straining, portal hypertension, pregnancy

What is an internal hemorrhoid?

Hemorrhoid above the (proximal) dentate line

What is an external hemorrhoid?

Hemorrhoid below the dentate line

What are the three "hemorrhoid quadrants"?

1. Left lateral
2. Right posterior
3. Right anterior

Classification by Degrees the following terms for internal hemorrhoids:

- First-degree hemorrhoid > Hemorrhoid that does not prolapse
- Second-degree hemorrhoid > Prolapses with defecation, but returns on its own
- Third-degree hemorrhoid > Prolapses with defecation or any type of Valsalva maneuver and requires active manual reduction (eat fiber!)
- Fourth-degree hemorrhoid > Prolapsed hemorrhoid that cannot be reduced

What is the treatment?

- High-fiber diet, anal hygiene, topical steroids, sitz baths
- Rubber band ligation (in most cases anesthetic is not necessary for internal hemorrhoids)
- Surgical resection for large refractory hemorrhoids, infrared coagulation, harmonic scalpel

What are the dreaded complications of hemorrhoidectomy?

- Exsanguination (bleeding may pool proximally in lumen of colon without any signs of external bleeding)
- Pelvic infection (may be extensive and potentially fatal)
- Incontinence (injury to sphincter complex)
- Anal stricture

What condition is a contraindication for hemorrhoidectomy?

Crohn's disease

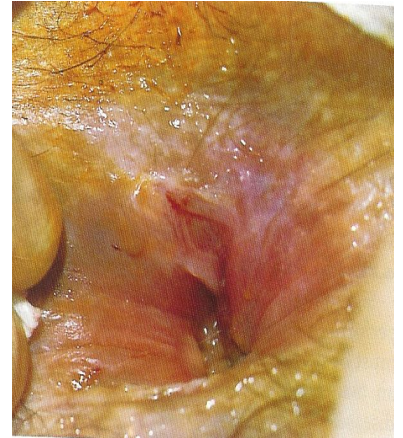
Classically, what must be ruled out with lower GI bleeding believed to be caused by hemorrhoids?

Colon cancer (colonoscopy)

ANAL FISSURE

INTRODUCTION:

- Fissure is a tear in the anal canal extending from just below the dentate line to the anal verge.
- Most commonly in young and middle age adults.
- The cardinal symptom is pain during and for minutes to hours following defecation. (patient will present with Severe sharp pain especially + bleeding
- Bright red blood is common
- Over 90% of anal fissures are located in the posterior midline.
- Almost all the rest located in the anterior midline.
- The acute fissure is a "mere crack" in the anoderm.
- Distal sentinel tag, a proximal hypertrophied anal papilla, fibrotic edges, and exposed internal sphincter fibres are features of chronicity.



Etiology and Pathogenesis

- Initiating factor is trauma.
- Pathophysiology : constipation → straining → increase pressure inside → hypertrophy of the muscles → decrease blood supply → ischemia → slapping of the lining anoderm → anal fissure → pain and blood → patient don't want to go to the bathroom because of the pain --> more constipation "because the fluid will be absorbed from the stool → the patient eventually will defecate HARD stool → Physical trauma → MORE fissure and more pain and so on in this vicious cycle.

Treatment

The problem is ischemia how can we improve the blood supply by applying vasodilators GTN ointment or use Ca⁺⁺ channel blockers in the area locally → dilate blood vessel → more blood supply → fissure will heal. 95% of acute fissure will heal with this medication and reverse of constipation. In chronic fissure only 50% will respond. If there is no response, we should use medical sphincterotomy by botox injection will relax the sphincter. If not respond to the medical sphincterotomy → surgical sphincterotomy.

Acute Fissure (within 6 weeks) with Topical Application

- Nitric oxide has been identified as the chemical messenger of the intrinsic non-adrenergic, non-cholinergic pathway mediating relaxation of the internal anal sphincter.
- Topical application of nitroglycerin, a nitric oxide donor, causes a transient lowering of resting anal pressure and an increase in anodermal blood flow.
- A 92% healing rate within two weeks for acute fissures treated with application of 0.2% glyceryl trinitrate ointment.
- Topical calcium channel blocker • s (2% diltiazem, 0.3% nifedipine) .
- Heal 65-95% of fissures .
- The most common side effects are headache, flushing, and symptomatic hypotens

Treatment of chronic fissure

- Topical Nitroglycerin: At eight weeks healing was observed in 68% of the GTN
- Botulinum Toxin: Botulinum toxin has been injected into the external and internal sphincters and, with short term follow up, healing rates of 80% have been achieved
- Are unlikely to heal with warm baths and a high fibre diet.
- Internal Sphincterotomy : Lateral internal sphincterotomy (LIS) achieve healing in over 95% within several weeks
- Anal Dilatation

Anal fissure notes from recall

What is anal fissure ?

Tear or fissure of anal epithelium

What is the most common site ?

Posterior midline (low blood flow)

What are the signs and symptoms of anal fissure ?

Pain in anus. Bowel movements, rectal bleeding, blood after bowel movement, sentinel tag, tear in anal skin, painful rectal exam , sensitive pile and hypertrophic papilla

What is sentinel pile ?

Thickening of mucosa / skin at distal end of anal fissure that is often confused with small hemorrhoid

What is the disease should be considered with chronic anal fissure ?


Crohn's disease. AIDS, anal cancer, STD and ulcerative colitis.

What is indication of surgery ?

Chronic fissure refractory to conservative treatment

Abscess and fistula


Introduction

- Both abscess and fistula-in-ano can be considered simultaneously.
- The abscess is an acute manifestation, and the fistula is a chronic condition. 

ETIOLOGY


- Nonspecific (90% of cases) :
Cryptoglandular in origin : The cryptoglandular hypothesis states that infection of the anal glands associated with the anal crypts is the primary cause of anal fistula and abscess.
- Specific (10% of cases) :
 - Crohn's**
 - Ulcerative colitis
 - TB
 - Actinomycosis
 - Carcinoma
 - Trauma**
 - Radiation**
 - Foreign body
 - Lymphoma
 - Pelvic inflammation
 - Leukemia
 - Diverticulitis**
 - Perforated appendix**

Note :

Infection → obstruction of gland → collection of secretion inside → abscess 

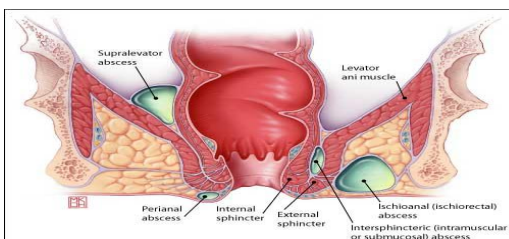
Note :

Fistula occurs after any treatment (drainage) of any abscess which is composed of external opening, canal and internal opening.


60% of fistula resolved spontaneously while 40% will be permanent. 

Classification of abscess

- 1-Supralelevator abscess
- 2-Perianal abscess
- 3-Intersphincteric (intramuscular or submucosal abscess)
- 4-ischioanal abscess (Ischiorectal)



Note :

All types of abscess are specific (cryptoglandular) in origin except the supralelevator which is non specific in origin 

Clinical features of abscess :

Local : The main symptom is painful swelling +/- discharge (if large)

Systemic : systemic symptoms such as fever.

Treatment of abscess

- **Incision and drainage.**
- Determine the most tender point, a 2 cm area of skin is injected with local freezing.
- Elliptical or cruciate incision.
- Drainage of pus. Destroy all loculations.

Using ANTIBIOTICS in abscess in :

- Immunosuppression.
- Valvular disease.
- Diabetics.
- Extensive disease
- Systemic manifestation.

CLASSIFICATION of fistula :

Parks Classification of Fistula-in-Ano*

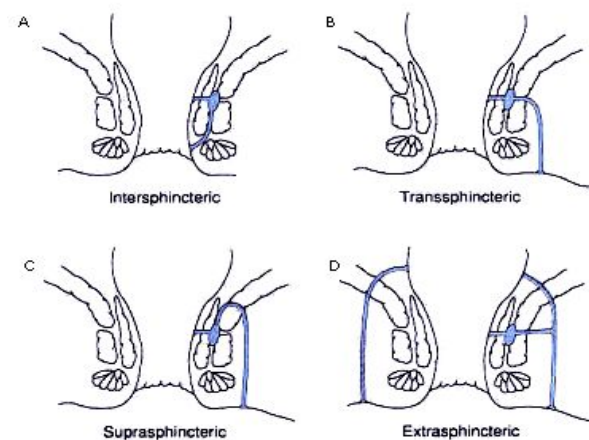
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Intersphincteric Fistulas
Simple low tract
High blind tract
High tract with rectal opening
Rectal opening without a perineal opening
Extrarectal extension
Secondary to pelvic disease

Transsphincteric Fistulas
Uncomplicated
High blind tract

Suprasphincteric Fistulas
Uncomplicated
High blind tract

Extrasphincteric Fistulas
Secondary to anal fistula
Secondary to trauma
Secondary to anorectal disease
Caused by pelvic inflammation



Evaluation of Anal Fistula

- An accurate preoperative assessment of the anatomy of an anal fistula is very important.
- Five essential points of a clinical examination of an anal fistula :
 - (1) location of the internal opening.
 - (2) location of the external opening.
 - (3) location of the primary track .
 - (4) location of any secondary track.
 - (5) determination of the presence or absence of underlying disease
 - (6) **determination of underlying disease** .

TREATMENT of fistula

- The objective is to cure with lowest possible recurrence rate and preserving the continence mechanism.
- **Treatment by Fistulotomy/fistulectomy**
- The laying-open technique (fistulotomy) is useful for 85-95% of primary fistulae .
- Curettage is performed to remove granulation tissue.
- Marsupialization of the edges to improve healing times.
- If Fistulotomy/fistulectomy a lot of muscle involved may lead to bowel incontinence**
- Setons in the Management of Difficult Fistulas

Thank you

I'M NOT
TELLING YOU
IT'S GOING TO
BE EASY. I'M
TELLING YOU
IT'S GOING TO
BE WORTH IT.
Art Williams