

Lecture 15: Diverticular Diseases

📌 Definition of **diverticular disease** :

- Acquired **herniation of mucosa and submucosa** through the **muscularis layer** between **mesenteric and antimesenteric tenia** (weak point).
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◆ Types of Diverticula:

1. **True diverticulum** (congenital)
 2. **False diverticulum** (acquired)
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◆ Classification:

- **Diverticulosis:**
 - Asymptomatic
 - Found incidentally
 - **Diverticulitis:**
 - Complication of diverticulosis due to **inflammation**
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◆ Prevalence:

- Diverticulosis → More common in **USA and Europe**
 - Detection ? during imaging or endoscopy for other reason
 - Age-related disease:
 - ⇒ 50% of people > age 50
 - ⇒ 65% → age 85
 - ⇒ 5% → age 40 or younger
 - Due to:
 - Low fiber diet → low stool volume → slow transit time
 - Aging + structural changes of tissues
 - ⚠ incidence among young patients is increasing „ but complications are worse
 - DIVERTICULITIS → 10-25%
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◆ Most Common Site:

- **Left colon** (especially **sigmoid colon**) – 90%
- **Right-sided** (5–15%)
- **Pancolic** involvement (2%)

👉 **Left-sided:** More in Western countries

👉 **Right-sided:** More in Asia

◆ Etiology:

- Acquired „ Poorly understood
 - 1. 1- Most accepted theory:
 - Low fiber diet → small volume stool → constipation → high intraluminal pressure → herniation → diverticulosis
 - Chronic contractions → muscular hypertrophy + development of the process of segmentation → colon acts as separate segments
 - Higher intraluminal pressure → now colon as segments that have tendency to herniate instead of the colon fx as a whole tube
 - 2. aging (structural changes in tissue) → ↓ elasticity + loss of tensile strength
 - 3. smoking
 - 4. obesity + less physical activity
 - 5. genetics
 - 6. meds (narcotics) → any drug causes constipation
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Gross appearance:

- Shortening & thickening of bowel and its mesentery due to chronic inflammation
 - Narrowing of lumen
 - Muscle hypertrophy and fibrosis
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Spectrum of Disease: **pathology is common** but clinical manifestations are less / **most are asympt.**

4 variations :

- 1- Asymptomatic → diverticulosis
 - 2- Symptomatic uncomplicated diverticular disease (SUDD) → mild , recurr pain
 - 3- Uncomplicated diverticulitis → local inf. (microperforation) → triad: high WBC / localized pain / fever → M/C form of cx
 - 4- Complicated diverticulitis → abscess , perforation , obstruction
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Complications:

1. **Diverticulitis (Most common)**
 - ◆ Clinical: fever, LLQ pain, leukocytosis
2. **Bleeding (5-15%)**
 - ◆ with angiodysplasia → M/C cause of massive lower GI bleeding
 - ◆ more in **right colon (loplace law)**
 - ◆ more common in **males**
 - ◆ colonoscopy is mandatory ? to exclude malignancy
 - ◆ stops spontaneously but recurrence is high
 - ◆ tx of bleeding → colectomy , embolization
 - ⚠ **Not associated with diverticulitis**
3. **Fistulas** → occur in 5% in complicated diverticulitis (spontaneous vs iatrogenic) → 4 types :
 - R/O other causes ? malignancy , IBD , radiation
 - Colocutaneous → spontaneous , post drainage , post op

- Colovesical → M/C, M>F: pneumaturia, recurrent urinary sepsis, urgency // dx: cystoscopy, CT, contrast study
- coloenteric → 2ry to a ruptured abscess into the small bowel, causes → chronic abd pain and diarrhea due to direct drainage of small bowel contents into sigmoid, it could be asymptomatic
- Colovaginal → flatus and feces through vagina, recurrent vaginal infections, More common after hysterectomy
- 4. **Abscess:** M/C cx of acute diverticulitis
 - Management:
 - <5 cm (small) → antibiotics
 - >5 cm or symptomatic (large) → CT or US guided drainage with abx
- 5. **Obstruction:** (10%)
 - 2ry to luminal stenosis or extrinsic compression from abscess
 - Tx → Hartmann's, resection with anastomosis, temporary stenting with later resection
 - Malignancy should be excluded

Hinchey Classification (Severity of Diverticulitis):

Stage	Description	
I	With Pericolic abscess	Inflammation around diverticulum
II	With distant abscess (Pelvic)	
III	With Purulent peritonitis	Macroperforation
IV	With Fecal peritonitis	macroperforation

◆ Stage I & II: Antibiotics + drainage → m/c cases, most will improve

◆ Stage III & IV: 1-2%, Surgical intervention, Mortality: 20-30%

Investigations:

- **Acute phase:**
 - CT scan
- **Not acute → Colonoscopy:** BEST OPTION
 - Always Must do it before surgery but after 4 weeks of resolution the acute phase
- Contrast study (enema)

Treatment:

- Most with Stage I/II → conservative tx
- 50-70% will have no further attacks
- 15-25% need surgery after 1st attack
- patients with 2nd attack 60% will have complications
- after 2nd attack recovery only 10 will be asymptomatic
- Recovery after 3rd → 6% vs 1st → 70%
- Elective surgery → recurrence after surgery → 3% colosigmoidostomy → 4 folds more chance of recurrence
- When to do Surgery?:
 - At least 2 attacks of diverticulitis
 - 1 attack in → young pt, immunocompromised (DM), inability to exclude malignancy
 - with each attack Time interval between attacks is shorter AND more severe
 - Risk of cx doesn't increase with recurrence