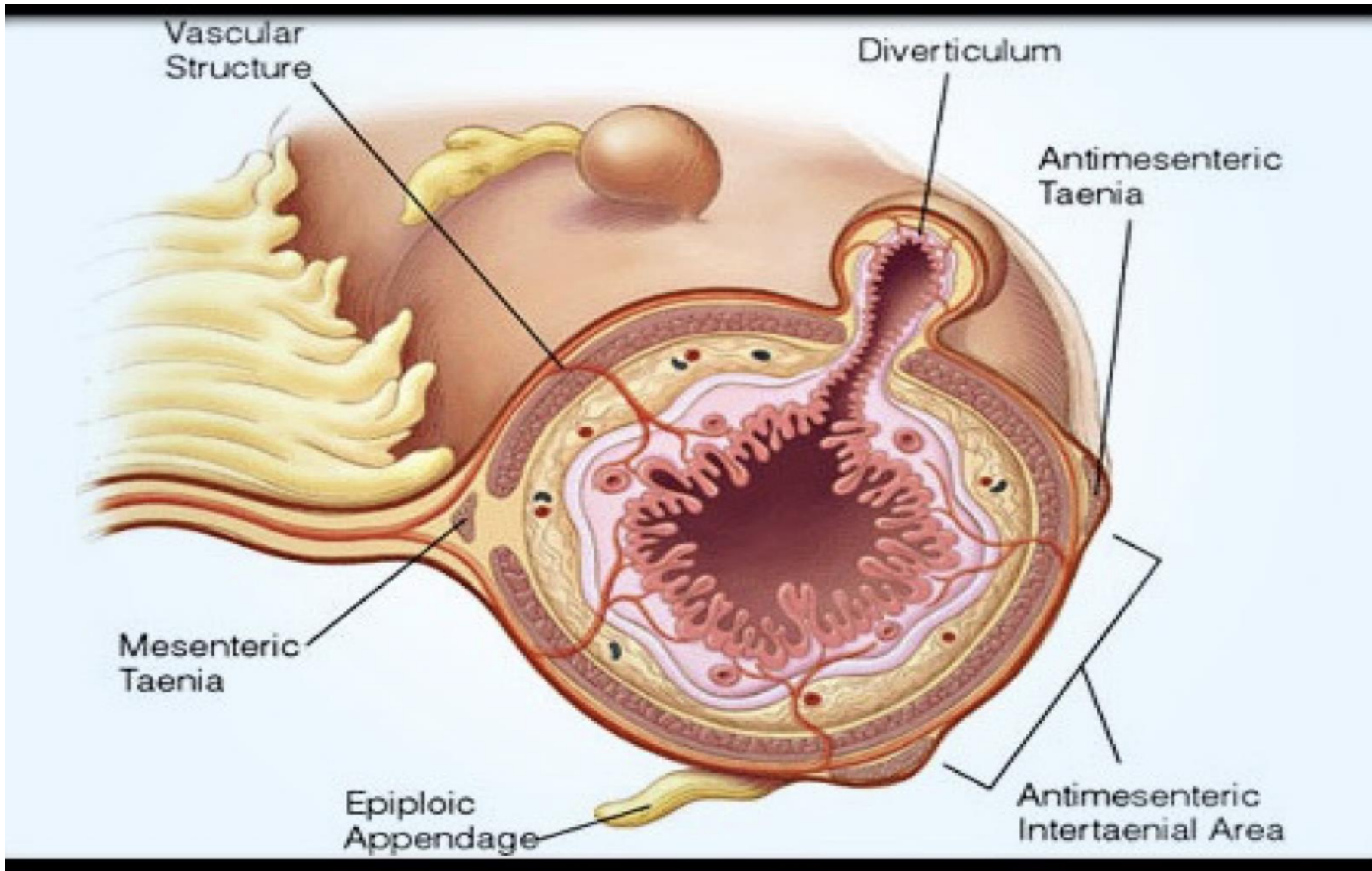


Diverticular Disease

Firas Obeidat

Introduction

- Types of diverticulum (true and false).
- Diverticulosis, diverticular disease, diverticulitis.
- Diverticular disease: Acquired herniations of mucosa and submucosa through the muscle wall between the mesenteric and antimesenteric taenia.



Introduction

- Diverticulosis is extremely common in United States and Europe.
 - detection (during images and endoscopy for other reasons).
 - diet (low fiber diet associated low stool volume and slow transit time).
 - aging and associated structural changes of the tissue.

Prevalence

- Age related disease:

50% of people above 50 years have diverticulosis.

As high as 65% by 85 years of age.

As low as 5% in those 40 years of age or younger.

- In contrast to that in developing countries, where the rate of diverticulosis is much less.

- The incidence among young individuals is increasing and they have more complicated course.

Prevalence

- Sigmoid/Lt sided colon is affected in (90%) of patients with diverticulosis, Rt sided colon (5-15%), pancolonic involvement (2%).
- Lt sided diverticula: more common in Western countries.
- Rt. sided diverticula: more common in Asia.
- Diverticulitis occurs in (10-25%) of patients.

Etiology

- It is an acquired disorder, but the etiology is poorly understood
- The most accepted theory is the lack of dietary fiber results in smaller stool volume, requiring high intraluminal pressure and high colonic wall tension for propulsion.
- Chronic contractions then results in muscular hypertrophy and development of the process of segmentation in which the colon acts like separate segments instead of functioning as a continuous tube.

Etiology

- Structural changes due to aging. (loss of tensile strength and a decrease in elasticity of the bowel wall)
- Decreased physical activity, obesity.
- Smoking.
- Genetic susceptibility.
- Medications.

Morphologic features

Gross appearance:

- Thickening and shortening of the bowel and its mesentery as a result of chronic inflammation.
- Narrowing of the lumen.



Spectrum

➤ High incidence of diverticulosis, but clinical manifestations are relatively infrequent.

➤ **Variation:**

Asymptomatic (diverticulosis).

Symptomatic uncomplicated diverticular disease (SUDD).

Uncomplicated diverticulitis (localized phlegmon).

Complicated diverticulitis (abscess, perforation, obstruction).

Diverticulitis

Uncomplicated diverticulitis:

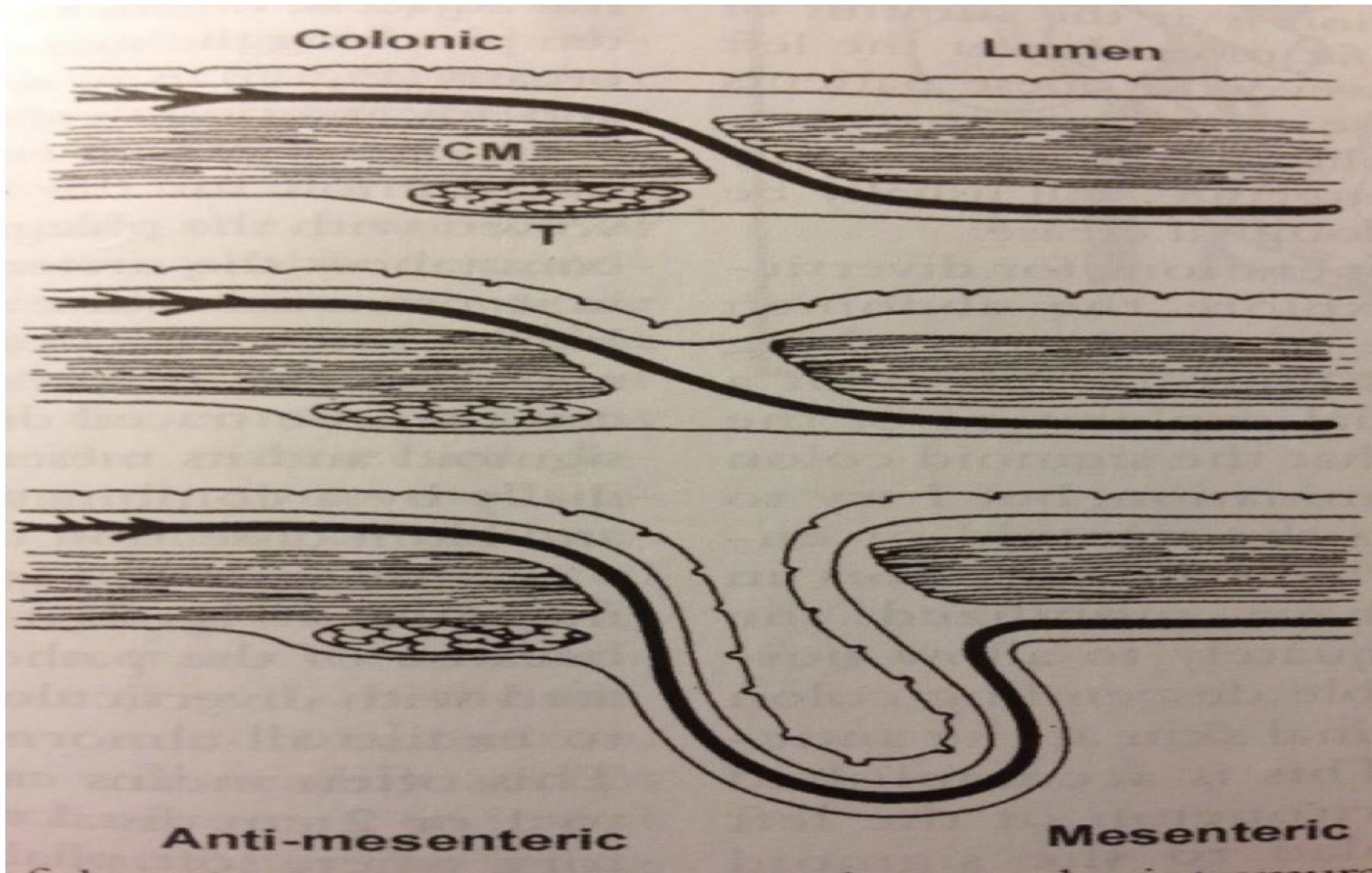
- Local inflammation (microperforation).
- Most common form of complication.
- Classic triad (localized tenderness, fever, and leukocytosis).

Complicated diverticulitis:

- Abscess formation.
- Free perforation.
- Obstruction.

Bleeding

- Pathogenesis.
- Occurs in (5-15%) of patients.
- More common in male.
- More in the Rt. Colon.
- With angiodysplasia are the most common cause of massive lower GI bleeding.
- Not associated with diverticulitis.
- Colonoscopy is mandatory to exclude malignancy.
- Stop spontaneously in most cases but rebleeding rate is high.
- Treatment: colectomy, embolization.



Fistula

- Occurs in 5% of complicated diverticulitis (spontaneous versus iatrogenic).
- R/O other causes: malignancy, IBD, radiation induced fistula.

- Types:

- Colocutaneous:

Spontaneous, post abscess drainage, postoperative.

- Colovesical:

Most common, More in males.

Recurrent urinary sepsis, urgency, pneumaturia.

Diagnosis: cystoscopy, CT scan, Contrast study.

Fistula

- Coloenteric fistula:

Secondary to abscess rupture into the small bowel.

Chronic abdominal pain and diarrhea.

May be asymptomatic.

- Colovaginal fistula:

Passage of flatus and feces through the vagina.

Recurrent vaginal infection.

More common after hysterectomy.

Obstruction

- Occurs in (10%) of patients secondary to luminal stenosis or extrinsic compression from abscess.
- Treatment: Hartman's procedure, resection with anastomosis or temporary stenting with later resection.
- Malignancy should be excluded.

Abscess

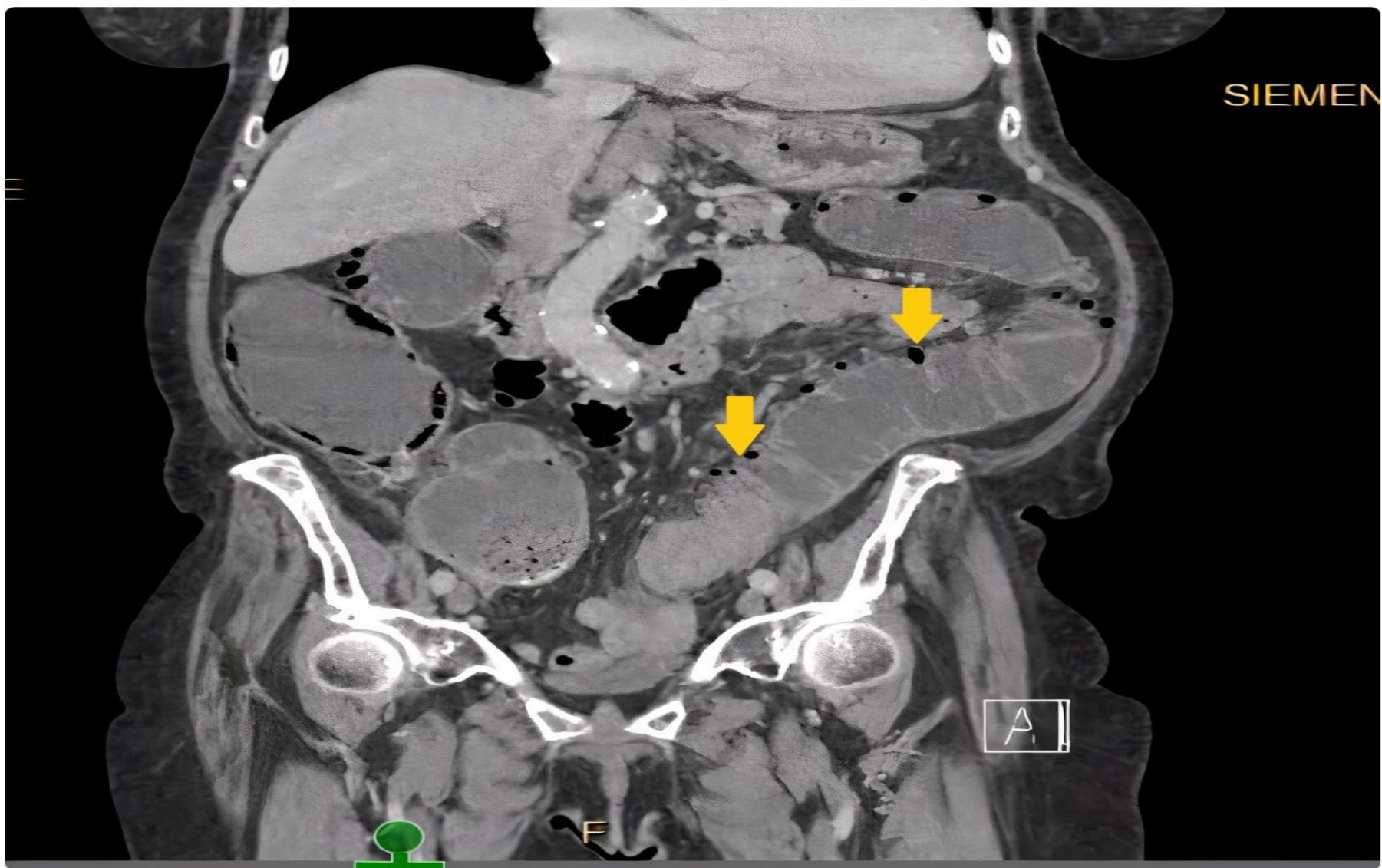
- Most common complication of acute diverticulitis.
- Presentation (signs and symptoms).
- Treatment: small abscess with antibiotics. Large abscess CT or US guided drainage with antibiotics.

Hinchy classification

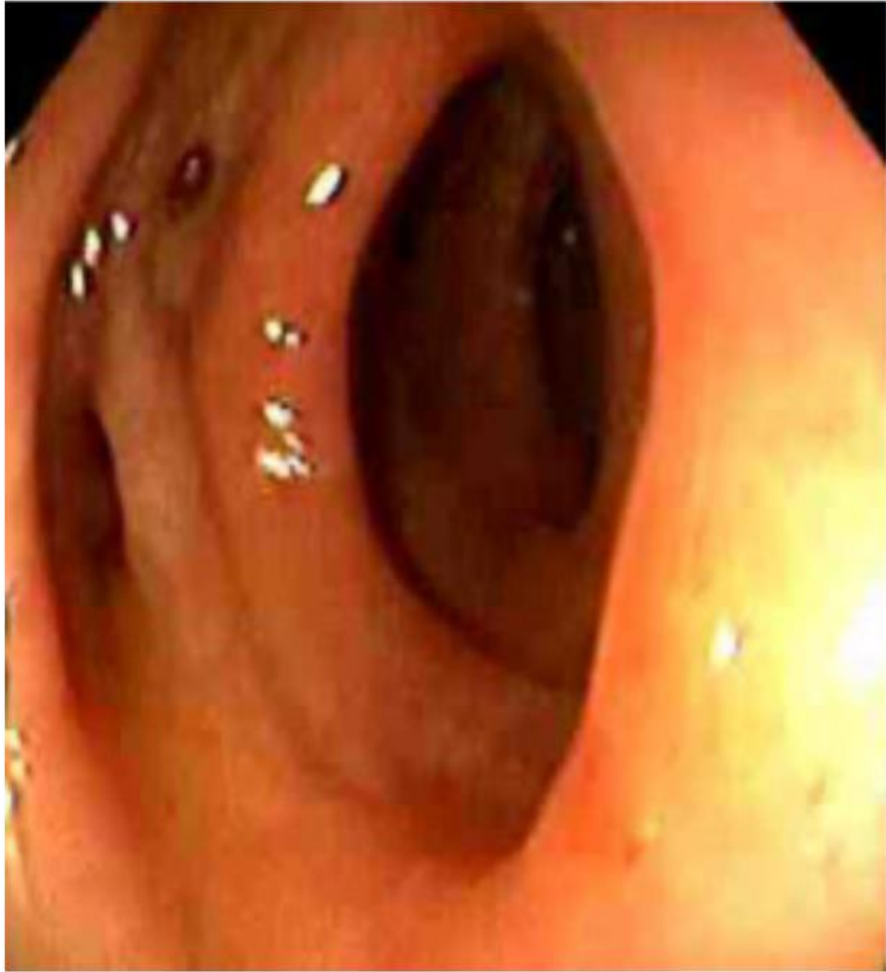
- Stage I: diverticulitis with pericolic abscess.
 - Stage II: diverticulitis with distant abscess (pelvic).
 - Stage III: diverticulitis with purulent peritonitis.
 - Stage IV: diverticulitis with fecal peritonitis.
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- Stage I and II: antibiotics and drainage.
 - Stage III and IV: 1-2%, surgical intervention, mortality 20-30%.

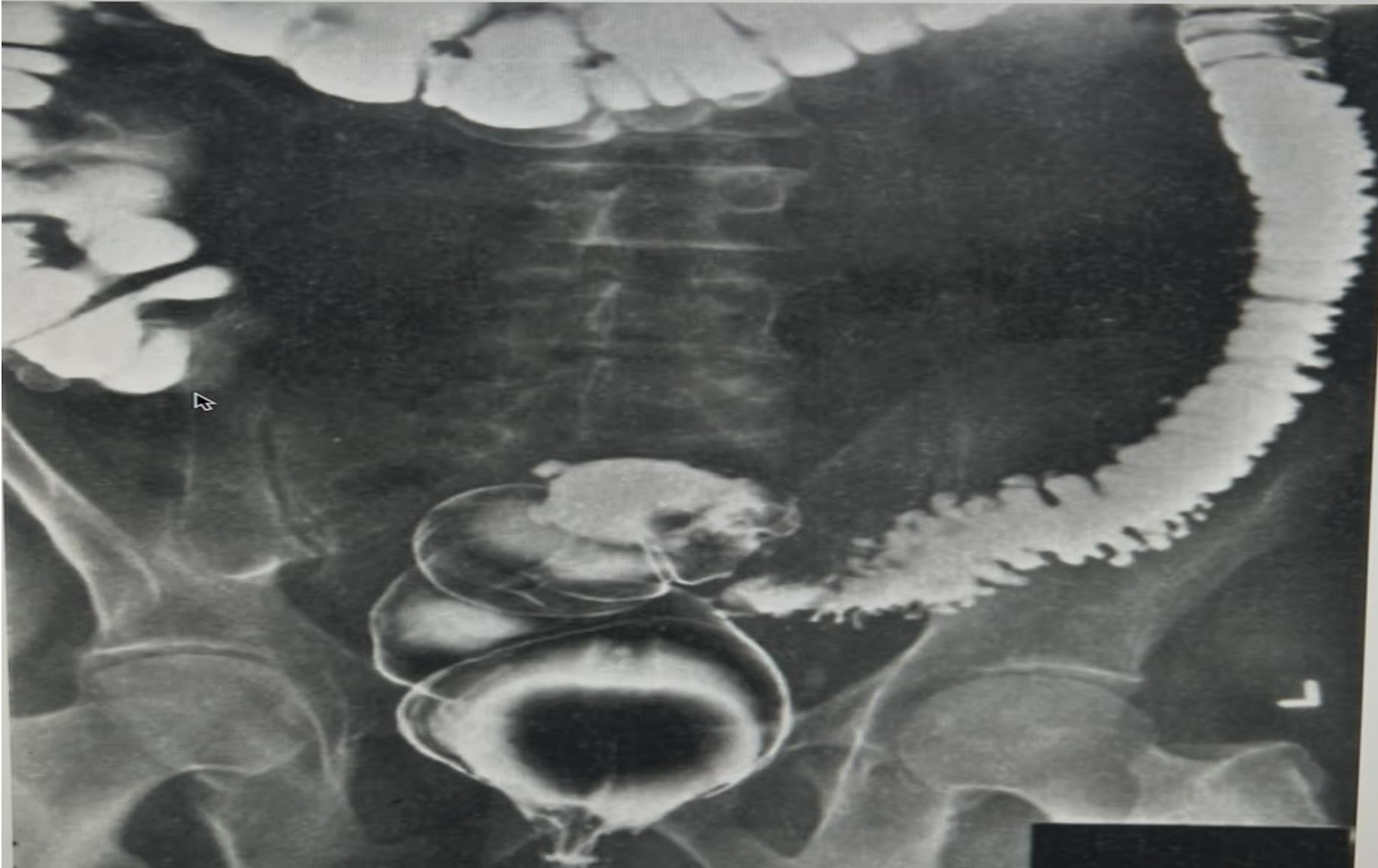
Investigations

- CT scan.
- Colonoscopy: after resolution of acute attack.
- Contrast stud (enema).











Treatment

- The majority can be managed conservatively.
- 50-70% will have no further episodes.
- 15-25% will require surgery during the first complicated attack.
- For those who experienced 2nd attack, 60% of them will have complications.
- After recovery from the 2nd attack, only 10% remain asymptomatic.
- Recovery after the 1st attack can be expected in over 70% of patients versus 6% after the 3rd attack.

Treatment

Elective surgery:

- Recurrence after surgery: 3%.
- 4 folds more recurrence after colosigmoidostomy.

Indications:

- At least two attacks of diverticulitis(questioned)
- Even one attack in certain groups:

Young patients: more complicated course, recurrence is more severe.

Immunocompromised.

Inability to exclude malignancy.

- These guidelines have been questioned in recent years (risk of complications does not increase with recurrent disease.

