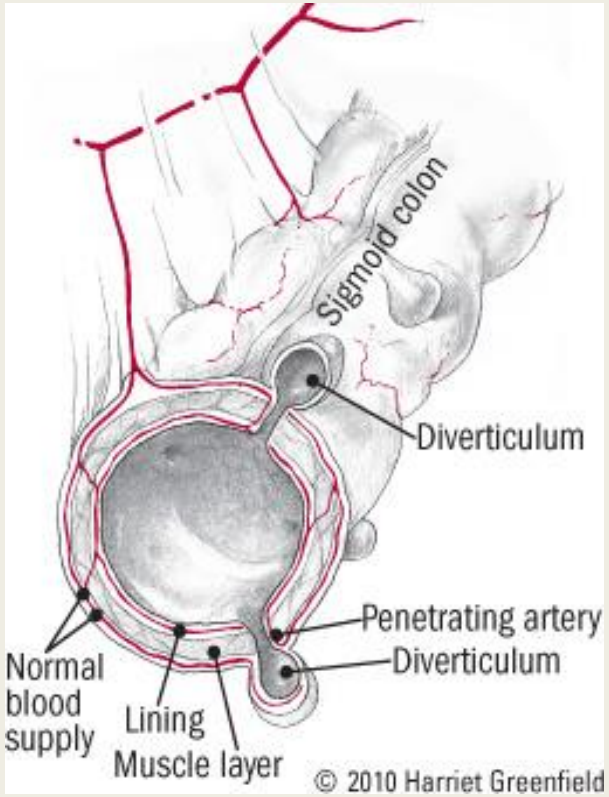
MANAGEMENT OF RECURRENT UNCOMPLICATED DIVERTICULAR DISEASE

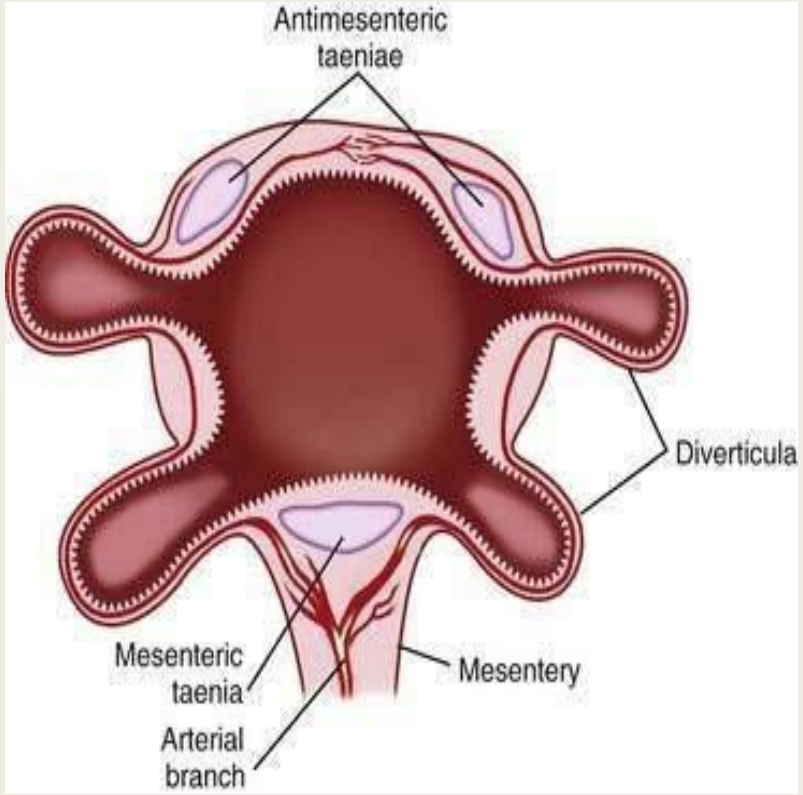
Mohamed A Nada
Professor of Colo-Rectal Surgery
Ain Shams University

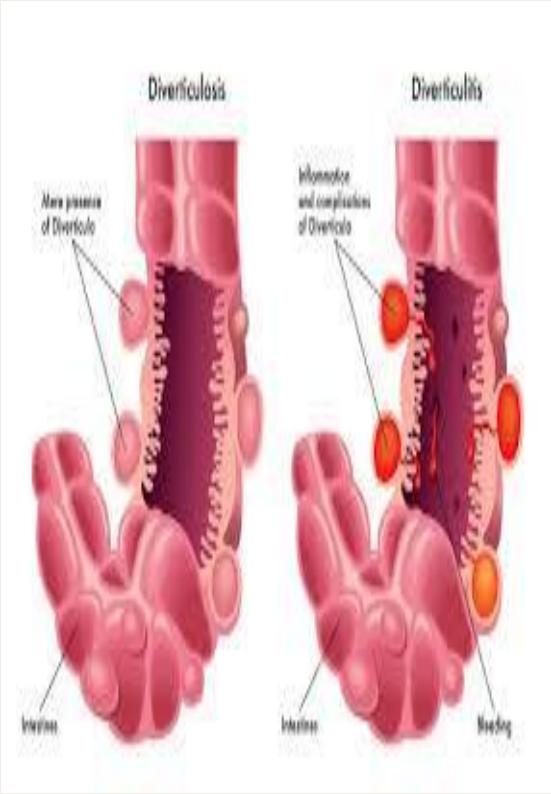
Introduction

- Diverticulosis: small outpouching or protrusion in the intestinal wall
- Affect approximately 5-10% of a population over 45 years and 80% of those over 85 years
- Asymptomatic (10-25% will develop diverticulitis)
- Pseudodiverticula (95%)
- Symptoms: bleeding, diverticulitis, segmental colitis.

Horton et al 2000, Onur et al 2017, Zullo et al 2019


Sigmoid colon
Diverticulum
Penetrating artery
Diverticulum
Normal blood supply
Lining
Muscle layer
© 2010 Harriet Greenfield


Antimesenteric taeniae
Diverticula
Mesenteric taenia
Mesentery
Arterial branch


Diverticulosis
Diverticulitis

Risk factors

- Low fiber diet
- Red meat
- Overweight and obesity
- Sedentary life
- Smoking
- NSAID, steroids,opiates

Protective factors

- Caffiene
- Alcohol
- Vitamin D, statins
- Seeds, nuts,popcorns.

Harakeh et al 2018

- Uncomplicated acute diverticulitis is defined as localized diverticular inflammation without any abscess or perforation. *Sartelli et al 2020*
- **Recurrent attacks** present in 20-35% of patients after the first attack despite complete remission
- Mechanisms responsible for these attacks are not clear
- Risk factors
  - *Diverticular abscess in the primary attack*
  - *Young age, male population*
  - *> 5 cm of inflammation,pancolonic diverticula, immunosuppression*
  - *Family history.* *Ritz et al 2011, Andeweg et al 2016,Van de Wall et al 2017.*

- Readmission rate for recurrent diverticulitis ranges from 9-25% after a followup of 4 years. *El Sayed et al 2018*
- 3-9% within 5 years follow-up will present with complications (fistula, abscess, perforations)
- Conservative therapy is successful in keeping 30% of patients completely asymptomatic after the first attack
- Use of mesalamine may reduce frequency of recurrence
- After surgery acute diverticulitis develop in the remaining colon in around 7-16% of patients. *Andeweg et al 2008, Harakeh et al 2018*

Diagnosis

- Clinical picture
- Inflammatory markers
- CT scan (sensetivity 94%, specificity 99%)
- Colonoscopy (avoided in acute attack)
- High resoloution ultrasonography. *Sartelli et al 2020*

In 2010,***Lameris et al*** developed a clinical decision rule for diagnosis of ALCD based on;

1. *Direct tenderness only in the left lower quadrent*
2. *CRP >50mg/l*
3. *Absence of vomiting.*

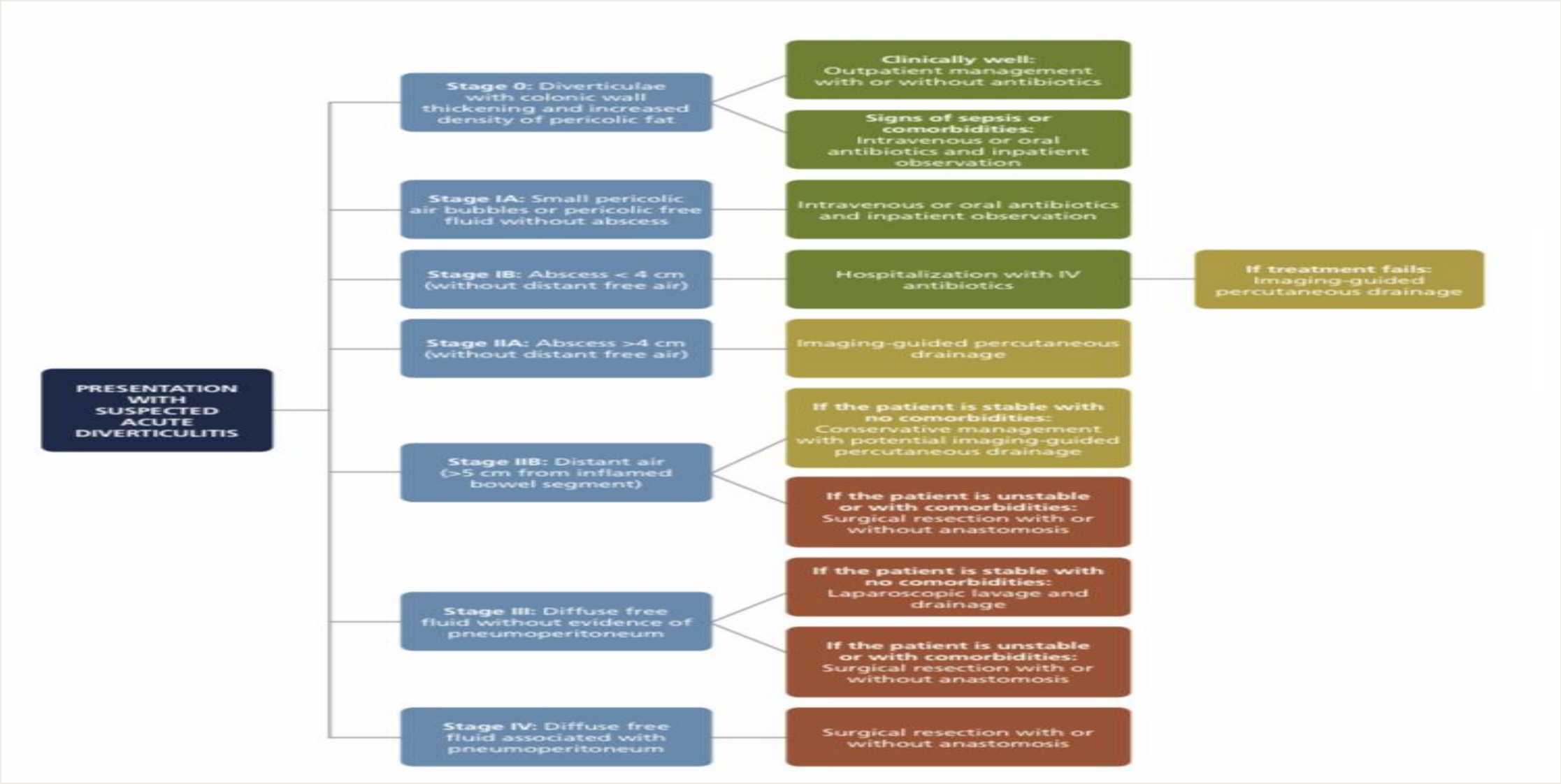
Classifications

Table 1: Hinchey et al. classification (1978)

	Hinchey et al. classification[8]
I	Pericolic abscess or phlegmon
II	Pelvic, abdominal, or retroperitoneal abscess
III	Generalized purulent peritonitis
IV	Generalized fecal peritonitis

Table 2: Classification modified by Wasvary et al. (1999) and by Kaiser et al. (2005)

	Classification modified by Wasvary et al.[9]	**Classification modified by Kaiser et al. (CT findings)[10]**
0	Colonic wall thickening	Colonic wall thickening
Ia	Phlegmon: confined pericolic inflammation	Same findings as 0 + pericolic tissue changes
Ib	Pericolic or mesocolic abscess	Same findings as Ia + pericolic or mesocolic abscess
II	Pelvic, abdominal or retroperitoneal abscess (distant abscess)	Same findings as Ia + distant abscess
III	Generalized purulent peritonitis	Pneumoperitoneum associated with localized free fluid or ascites and possible peritoneal Wall thickening
IV	Generalized fecal peritonitis	Same findings as III



Sartelli et al 2015

- **Stage 0** (colonic wall thichning and increased denisty of pericolic fat)
  - *Clinically well: outpatient management with or without antibiotics*
  - *Signs of sepsis or comorbidities: intravenous or oral antibiotics and inpatient observation*
- **Stage IA** (small pericolic air bubbles or pericolic free fluid without abscess
  - *Intravenous or oral antibiotics and inpatient observation*
- **Stage IB** (abscess <4cm without distant free air)
  - *Hospitalization with IV antibiotics*
  - *If failed, imaging guided percutaneous drainage*

- **Stage IIA** (abscess >4cm without distant free air)
  - *Imaging guided percutaneous drainage*
- **Stage IIB** (distant air >5cm from inflamed bowel segment)
  - *If the patient is stable with no comorbidities: conservative management with potential imaging guided percutaneous drainage*
  - *If the patient is unstable or with comorbidities: surgical resection with or without anastomosis*

- **Stage III** (diffuse free fluid without evidence of pneumoperitoneum)
  - *If the patient is stable without comorbidities: laparoscopic lavage and drainage*
  - *If the patient is unstable or with comorbidities: surgical resection with or without anastomosis*
- **Stage IV** (diffuse free fluid associated with pneumoperitoneum)
  - *surgical resection with or without anastomosis*

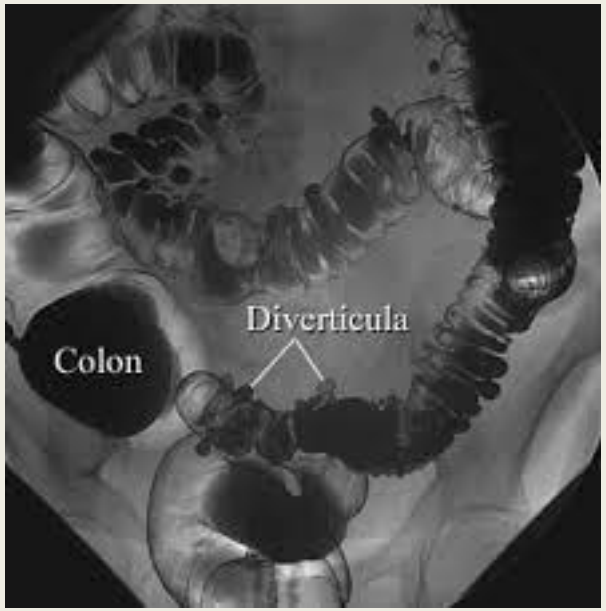
- Historically, surgery was adviced after 2 attacks of diverticulitis and after one attack in patient younger than 40.
- **Why surgery?**
  - *To prevente further attack and improve quality of life*
  - *To prevent potential complications*
  - *To prevent the potential risk of an emergency procedures resulting in colostomy formation.* ***Van de Wall et al 2017***

Elective resctions to prevent future complications is unwarranted

- 92% of recurrent cases was treated as outpatients
- 2% of recurrent cases ultimately needed surgery
- Most of the complications occur during the first attack
- Chronic pain develops in 20-35% of patients treated nonoperatively compared with 5-25% of patients treated surgically. *Chautemes et al 2002, Morris et al 2014, Harakeh 2018*

Double contrast enema

Virtual colonoscopy



THANK YOU