

Abdominal CT findings in Diverticulitis

Pathophysiology of diverticulitis. Diverticulitis represents macro- or microscopic perforation of a diverticula. The primary mechanism is thought to be erosion of the diverticular wall from increased intraluminal pressure or inspissated food particles. This results in inflammation and focal necrosis, progressing to perforation.

1. Localized mural thickening (>5mm in 70% of cases)
 - a. Due to muscular hypertrophy
 - i. Circumferential
 - ii. Preserves haustral markings
 - iii. No associated inflammation
 - b. Due to inflammation
 - i. Usually asymmetric (may be symmetric in advanced diverticulitis)
2. Stranding of nearby mesenteric fat (seen in 98%)
3. Diverticuli are present in 84% of cases
 - a. An inflamed diverticulum is frequently seen at the epicenter of inflammatory change
 - b. Arrowhead sign may be present – caused by edema of the bowel wall at the origin of the diverticulum when the imaging plane cuts through the contrast funneling in to the edematous orifice, creating an arrowhead-shaped collection of contrast.
4. Soft tissue mass – 35%
 - a. Phlegmon
 - b. Pericolic fluid collection
 - c. Abscess

- Diverticulitis most commonly involves the sigmoid colon.
- Microperforations that seal preventing frank peritonitis
- Simple diverticulitis refers to simple inflammation
- Complicated diverticulitis refers to inflammation complicated by abscess formation, fistulae, obstruction, or perforation.
- Diverticulosis occurs in 30% of the population by age 60 and 65% of the population by age 85.
- Thirty percent of those with diverticulosis become symptomatic.

Pericolic inflammation in 98%

Diverticula in 84%

Colonic wall thickening in 70%

Abscess in 35%

Fistula in 14%

Sinus tracts in 9%

Abscess distant from the sigmoid colon in 12%

The hallmark of diverticulitis is focal inflammatory wall thickening with paracolic inflammation superimposed on diverticular disease. Absence of pericolonic fat stranding excluded diverticulitis.

- Pericolonic fat stranding
- Diverticula
- Focal inflammatory wall thickening
- Muscular wall hypertrophy
- Abscess

References:

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