# Case 16161

Eurorad

## Diverticulitis of a Giant Colonic Diverticulum

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**ISSN:** 1563-4086
**Section:** Abdominal imaging
**Area of Interest:** Colon
**Procedure:** Diagnostic procedure
**Imaging Technique:** CT
**Special Focus:** Diverticula Case Type: Clinical Cases
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**Patient:** 65 years, male

**Clinical History:**

A 65 year old man presented in emergency room with severe lower abdominal pain. His white blood counts were slightly elevated. A CT scan was obtained.

**Imaging Findings:**

CT scan (Figure1) showed a giant sigmoid diverticulum in mid pelvis measuring 5 cm in size. The wall of diverticulum was thick and enhancing with mild surrounding inflammatory changes indicating diverticulitis.
CT scan obtained few months later (Figure 2) showed resolution of acute inflammation and decrease in wall thickness of the diverticulum.

**Discussion:**

Although colonic diverticulosis is common, a giant colonic diverticulum (GCD), which is defined by size > 4 cm, is a rare entity. The majority (93%) of GCD occur in sigmoid colon. Concomitant diverticular disease is present in 85% of the cases. [1-4]
Histologically, three types of GCD have been described: Type 1 (22%) is a pseudodiverticulum composed of remnants of muscularis mucosa, inflammatory cells, and fibrous tissue. Type 2 (66%) is an inflammatory diverticulum composed of scar tissue only arising from local perforation and abscess formation. Type 3 (12%) is a true diverticulum containing all bowel wall layers.[1] There are two main hypothesis to the formation of GCD. The first claim that an unidirectional ball-valve mechanism, through a tiny communicating diverticular neck causes air entrapment and gradual enlargement of the diverticulum while the other asserts that gas forming organisms are responsible for GCD. [2]
The majority of patients presents after the 6th decade of life. The common presenting symptoms are abdominal pain, nausea, vomiting, constipation, diarrhea, and melena.
The two most common complications of giant colonic diverticulum are perforation and abscess formation.[3]
Abdominal X-ray may show a large, smoothly marginated, air filled cyst ('Balloon-sign') with or without air-fluid level. On barium or water-soluble contrast enema examination, the diverticulum is opacified in 60% of cases. The wall of the diverticulum should be smooth and regular. If wall is irregular or lobulated, neoplasm should be excluded. At Ct, GCD appears as a thin walled pericolonic air and fluid collection adjacent to sigmoid colon measuring more than 4 cm. The diverticulum may develop wall thickening and increased enhancement in the setting of acute inflammation/diverticulitis, such as in our case.[1-4] Connection to the colon can be demonstrated in approximately 80% of cases. In the remainder , the communication to the colon is diminutive, seen only at pathological analysis. [3]
The treatment of choice is surgical management , although high-risk, elderly, and asymptomatic patients may be

managed conservatively.[3]
'Written informed patient consent for publication has been obtained.'
**Differential Diagnosis List:** Diverticulitis of a giant colonic diverticulum, Abscess, Bowel Duplication

**Final Diagnosis:** Diverticulitis of a giant colonic diverticulum

**References:**

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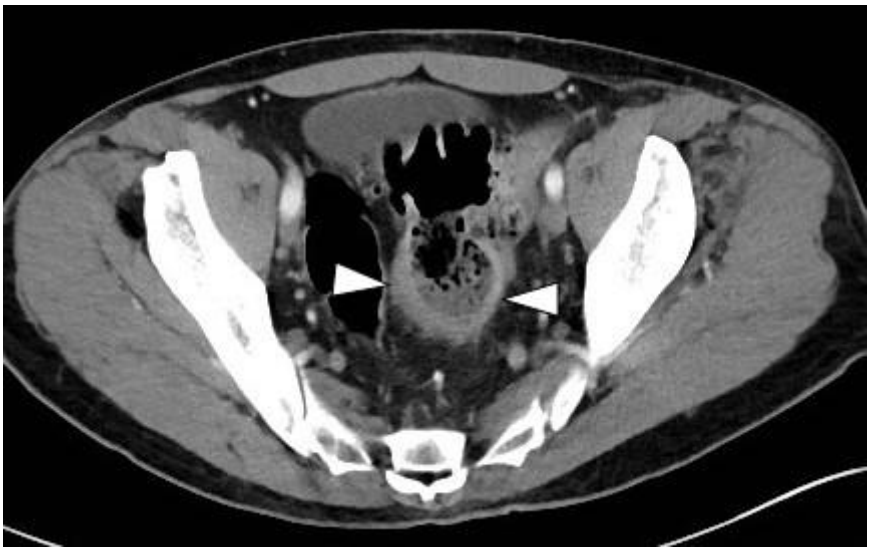
Thomas S, Peel RL, Evans LE, Haarer KA. (2006) Best cases from the AFIP: Giant colonic diverticulum. Clinical Imaging 26:1869-1872 (PMID: 17102056)

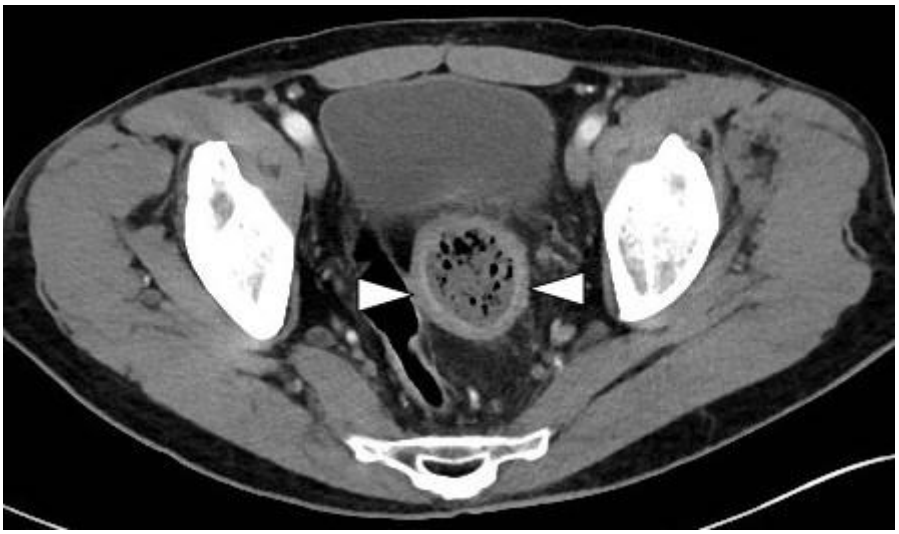
## Figure 1

**a**



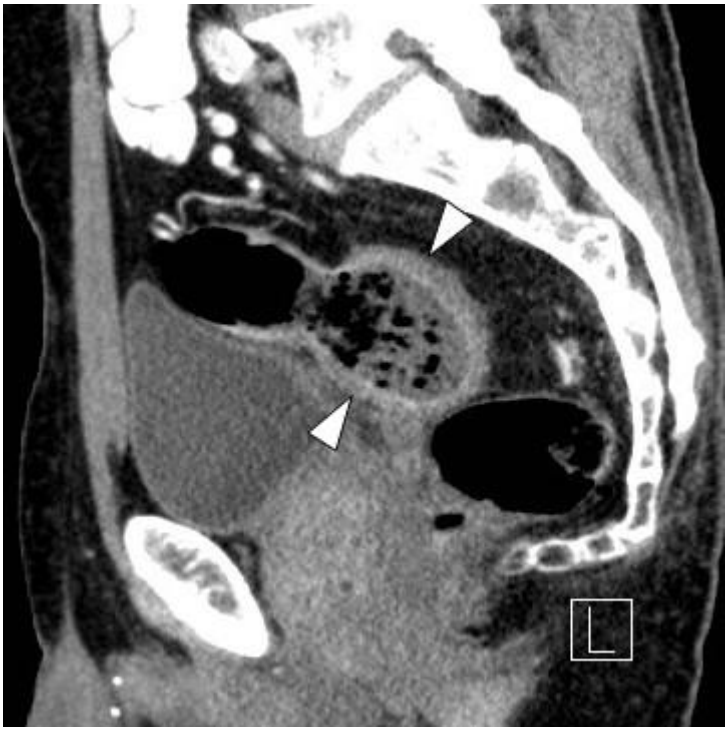
**Description:** Axial image at mid pelvic level shows an inflamed giant sigmoid diverticulum with thick enhancing wall. **Origin:** Dallas VA Medical Center

**b**



**Description:** Axial image at mid pelvic level shows an inflamed giant sigmoid diverticulum with thick enhancing wall. **Origin:** Dallas VA Medical Center

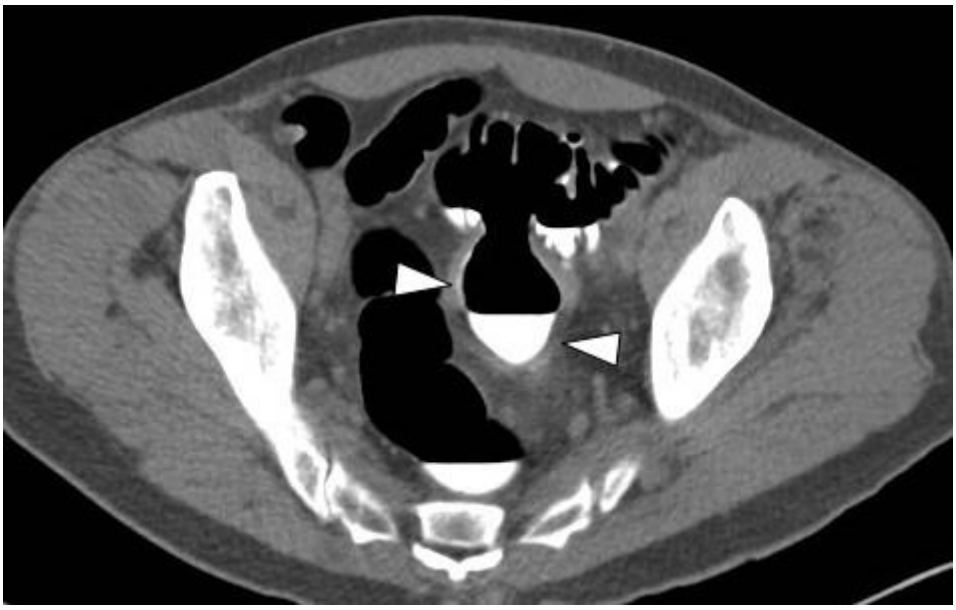
**c**



**Description:** Sagittal image shows an inflamed giant sigmoid diverticulum with thick enhancing wall.
**Origin:** Dallas VA Medical Center

## Figure 2

**a**



**Description:** Axial image at mid pelvic level shows resolution of acute inflammation and decrease in the wall thickenss of the giant diverticulum. **Origin:** Dallas VA Medical Center