

# Sigmoid diverticulitis in a patient with situs inversus totalis

Jessica Sousa\*, Duarte Gil Alves\*, Willian Schmitt, Rómulo Ribeiro

## CASE REPORT

A female in her 50s with no relevant past medical history, aside from a previous inguinal hernia repair, presented to the emergency department with chief complaint of abdominal pain in the right lower quadrant ongoing for about 1 day before presentation. The pain was constant, sharp, and nonradiating. The patient denied nausea or vomiting.

At the initial evaluation, the patient was awake and alert with a Glasgow Coma Scale (GCS) of 15 and the vital signs were as follows: blood pressure of 114/74 mmHg, heart rate of 75 beats per minute, an oxygen saturation of 98% on room air and a subfebrile temperature of 37.6°C.

On physical examination, the patient was found to have abdominal tenderness on the right lower quadrant, without signs of peritonitis.

Laboratory studies showed increased inflammatory markers, including a white blood cell count of  $14.2 \times 10^3/\mu\text{L}$  and a C-reactive protein (CRP) of 115.3 mg/L.

Computed tomography (CT) scan of the abdomen and pelvis without contrast revealed a situs inversus totalis with a wall thickening of the right-sided sigmoid colon and the presence of fat stranding (Figure 1). It was also possible to identify a confined pericolic abscess with

22×11 mm, suggesting an acute colonic diverticulitis Hinchey modified classification stage Ib (Figure 2).

The patient was admitted for medical management and started on intravenous antibiotics: 500 mg of Metronidazole every 8 hours and 400 mg of Ciprofloxacin every 12 hours. She was put on complete bowel rest with intravenous hydration and pain was controlled

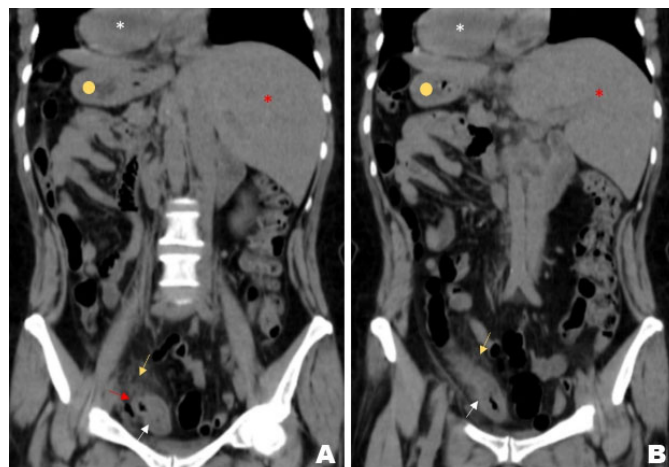


Figure 1 (A,B): Coronal unenhanced CT images revealed a right-sided heart with dextrocardia (white \*) and left-sided liver (red \*). The yellow circle shows a right-sided stomach. These findings are consistent with situs inversus totalis. Additionally, the CT images show wall thickening of the right sided sigmoid colon (white arrow) and presence of fat stranding (yellow arrow), particularly around a diverticula (red arrow), suggesting acute colonic diverticulitis.

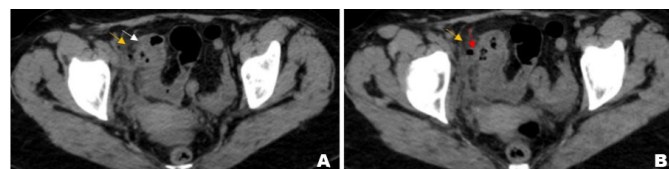


Figure 2 (A,B): Axial unenhanced CT images showed wall thickening of the right-sided sigmoid colon (white arrow) and presence of fat stranding (yellow arrow) around a diverticula (red arrow), suggesting acute colonic diverticulitis. Given the complete mirror-image transposition of abdominal organs, patients presenting with right-sided lower abdominal pain, can be mistakenly suspected of having an appendicitis.

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by administering parenteral analgesics. After a clinical improvement within two days, patient's diet was further advanced.

The patient responded well to this conservative therapy and was discharged in a stable condition after five days of hospitalization. She completed the remaining course of 14 days with oral antibiotics in an outpatient regime.

Six weeks after the acute diverticulitis attack, the patient performed a complete colonoscopy that was able to exclude a concomitant colonic cancer.

## DISCUSSION

Colonic diverticula are one of the most common structural abnormalities of the bowel [1]. Being an acquired condition, diverticula usually affect the sigmoid colon in Western societies and about 4% of patients will develop acute diverticulitis [2].

Diverticulitis always starts with a micro- or macroscopic perforation of a diverticulum. This is caused by either a rise in intraluminal pressure and/or erosion by inspissated feces. If the initial injury does not resolve, it might cause a localized abscess or, if adjacent organs are implicated, an obstruction or a fistula [3].

An acute attack of diverticulitis typically begins with lower abdominal pain that then localizes to the left iliac fossa due to the sigmoid colon involvement [4].

## CONCLUSION

Diverticulitis with a localized abscess (stages Ib–II) is generally resolved with conservative treatment. Situs inversus totalis (SIT) is a rare congenital abnormality where the abdominal and thoracic cavity structures are opposite of their usual position. Being aware of its existence is especially important in emergency situations. Clinically, situs inversus by itself is asymptomatic. Although careful physical examination can raise its suspicion, advanced imaging modalities like computer tomography (CT) or magnetic resonance imaging (MRI) make it possible to confirm the findings.

**Keywords:** Conservative treatment, Emergency medicine, Sigmoid diverticulitis, Situs inversus totalis

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Jessica Sousa and Duarte Gil Alves contributed equally to the work and should be considered co-first authors. Each has the right to list themselves first in author order on their CVs.

## Author Contributions

Jessica Sousa – Conception of the work, Design of the work, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Duarte Gil Alves – Conception of the work, Design of the work, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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**Conflict of Interest**

Authors declare no conflict of interest.

**Data Availability**

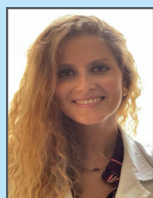
All relevant data are within the paper and its Supporting Information files.

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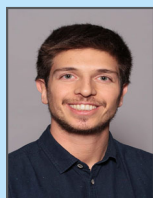
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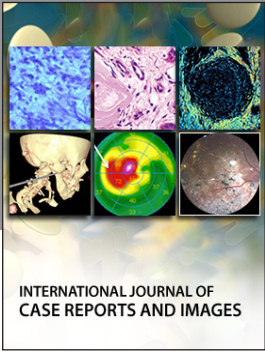
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