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Original Article

# Small Intestinal Sarcoidosis Causing Intestinal Obstruction: A Rare Case Report from Vietnam

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**Abstract:** Sarcoidosis is a systemic disorder represented by the formation of non-caseating granulomas throughout the body. Extrapulmonary sarcoidosis is uncommon, around 10% of all cases. Most instances of GI sarcoidosis affect the stomach, while data revealing small bowels participate in only 0,03% of all sarcoidosis cases. Herein we are reporting a unique case of a 45-year-old Vietnamese female patient who underwent an emergency of acute small bowel obstruction due to isolated ileal sarcoidosis. This paper is one of the few reports on the topic.

*Keywords:* sarcoidosis, non-seating granulomas, intestinal obstruction.

## 1. Introduction

Sarcoidosis is a systemic condition represented by the formation of non-caseating granulomas throughout the body. The pulmonary system is the most common site of the disease as it participates in around 90% of sarcoidosis patients since the gastrointestinal (GI) system accounts for less than 1%. Most cases of GI sarcoidosis affect the stomach, while data revealing small bowel sarcoidosis is only 0.03% of all topics [1, 2].

Usually, GI sarcoidosis has no symptoms. Symptoms were reported only from 0.1% to 0.9% of the time [3]. There were few cases reported of GI sarcoidosis. The small bowel was noted as the least common site involved in such cases. The clinical diagnosis of such disease is difficult to achieve, as many paraclinical

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examinations are needed and many differential diagnoses to exclude.

Herein we are reporting a unique case of a 45-year-old Vietnamese female patient who underwent an emergency of acute small bowel obstruction due to isolated ileal sarcoidosis.

## 2. Case Report

The 45-year-old Vietnamese female patient went to the emergency department because of abdominal pain. She suffered colicky pain for two days, nausea, vomiting 5-6 times per day, and there was no excretion for the last three days. She was in an acute distress condition. The patient had no essential medical history recorded and no weight loss, coughing, or fever for the last few months. Two weeks before, she had a colonoscopy checked due to colicky abdominal pain and diarrhea. The result was a small ulcer of the cecum, without any significant sign.

At admission, she was conscious, with no fever, as her temperature was 37 ºC, her pulse was 100 bpm, her blood pressure was 130/70 mmHg, and her breath rate was 18 times per minute. SpO2 99% on room air at rest.

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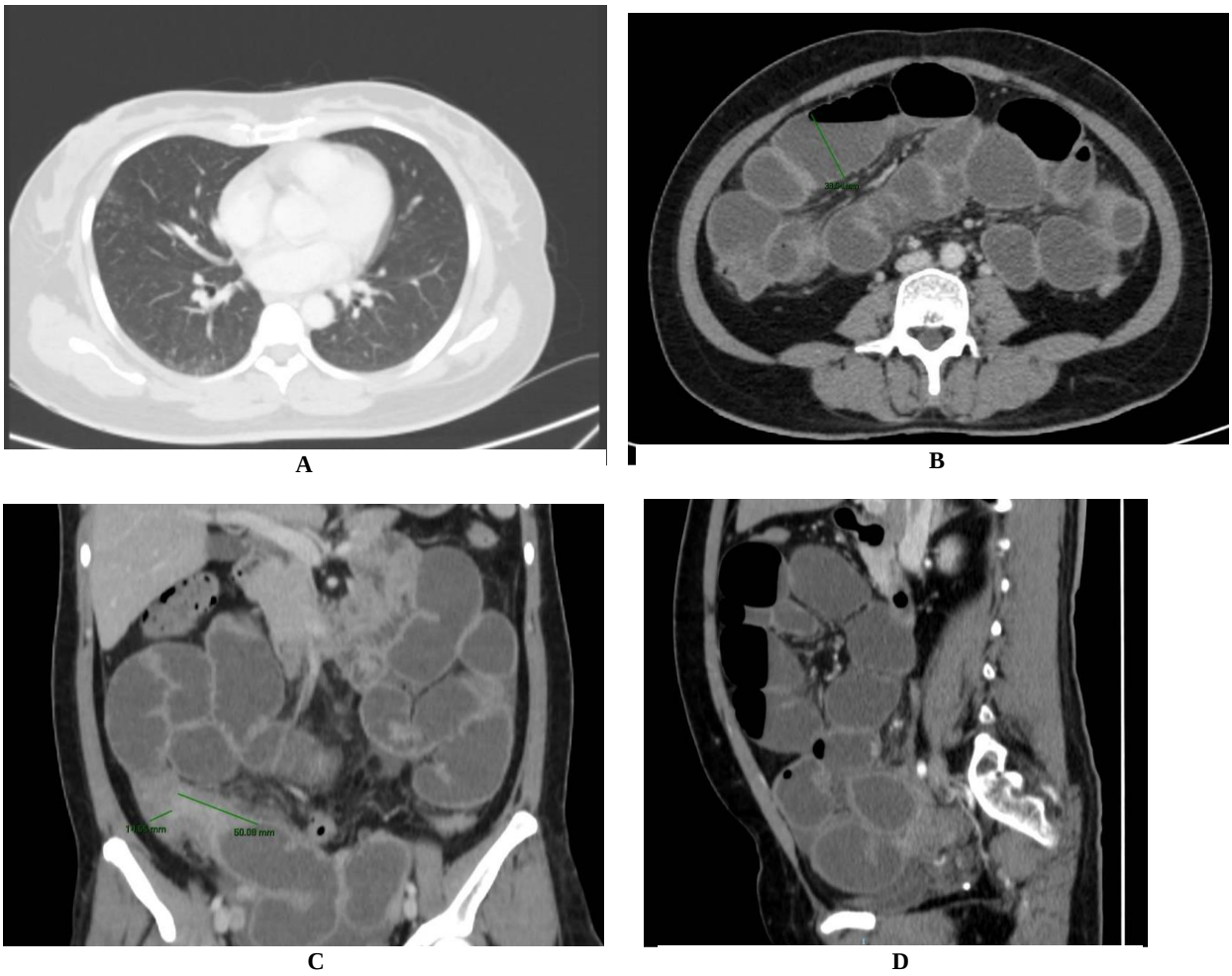


Figure 1. Thoracic abdominopelvic computed tomography: A: no lung lesions, B & D: multiple dilated loops of small bowel. **C**: Lesion of terminal ileum at right lower quadrant.

On clinical examination, her abdomen was distended with no enlargement of any organs. There were hyperactive bowel sounds auscultated at her right lower quadrant. A mildly tender sign was palpated over the periumbilical site. An abdominal X-ray showed a dilated small bowel with multiple air-fluid levels gathering ½ above the abdomen. A contrasted computed tomography (CT) scan of the thoracic-abdominopelvic demonstrated no signs of the pulmonary lesion but multiple dilated proximal small bowel loops with a transition point at the lower right quadrant. There was no free air inside her abdomen. The laboratory test was regular. The HIV test was negative. CEA level was average as well.

The patient underwent laparotomy for exploration. While operating, we noticed several small white nodes at the last part of the ileum and a tumor near the ileocecal valve, which caused the obstruction. We conducted right hemicolectomy and ileal-transverse colon anastomosis. There was no other lesion in the liver, pelvic area, or any other part of the GI tract.

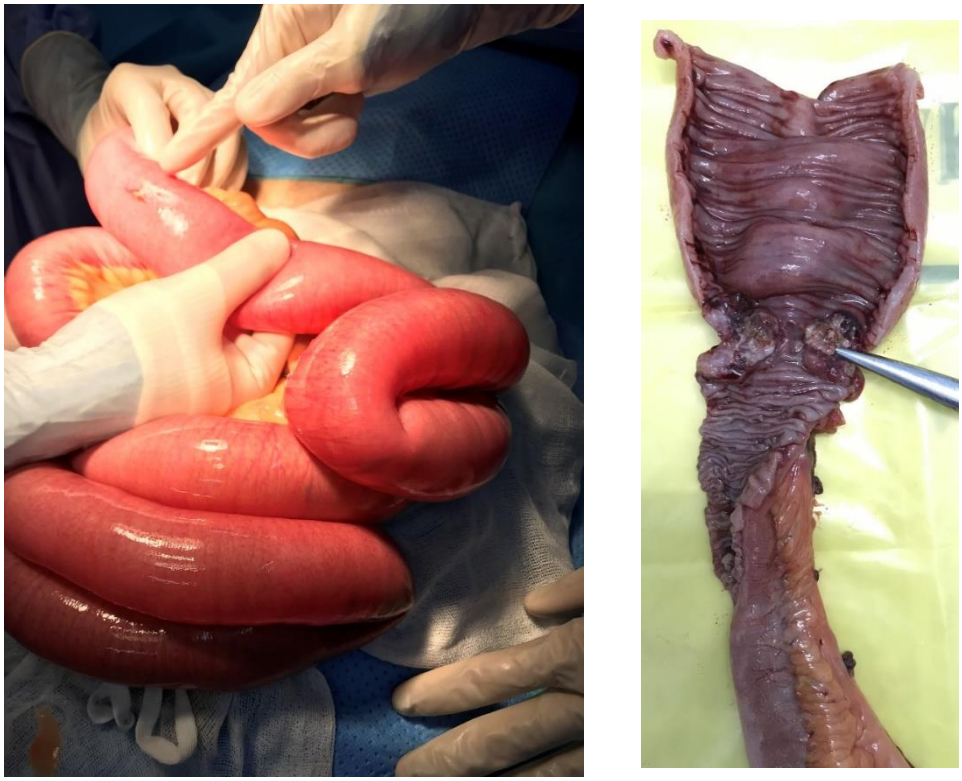

Figure 2. Small intestinal distention due to obstruction of terminal ileum and sarcoidosis lesion.

There was no complication during the postoperative time. She was discharged ten days after the operation and came back for checking 2 and 6 weeks later. Follow-up evaluation had shown a steady clinical condition with subject wellness and no sign of disease on abdominal CT or chest X-ray.

Histological examination and laboratory tests excluded causes of abdominal and peritoneal granulomatosis, such as tuberculosis, parasitosis, fungal infections, and peritoneal carcinosis. Microscopic slide revealing non-caseating granulomas of ileal biopsy. Staining for acid-fast bacilli (AFB) resulted in a negative.

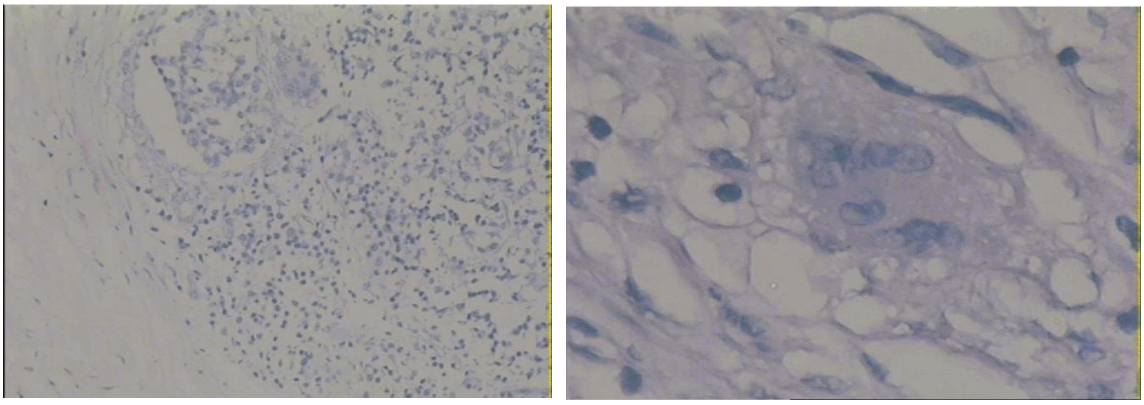

Figure 3. Microscopic slide revealing lymphohistiocytic non-caseating granuloma (Source: Binh Dan hospital).

## 3. Discussion

There is no exact cause of sarcoidosis but a hypothesis. They believe genetic and environmental factors can process the disease [4]. Sarcoidosis is a systemic granulomatous disease that manifests as non-caseating granulomas in organs throughout the body. Around 90% of patients were reported having thoracic involvement, which is also the most common site. Meanwhile, the GI tract is uncommon as it is related to 0.1-1.6% of patients with sarcoidosis, and even rarer, isolated small bowel sarcoidosis is only 0.03% of the cases [5]. Duodenal involvement is reported with a higher incidence in small bowel sarcoidosis, but this may be because, in other regions, tissue biopsy is less common [6, 7]. Most cases have occurred in the fifth or sixth decade of life, and one-half of them were multiple sarcoidoses.

The diagnosis criteria for small bowel sarcoidosis include three components: pathological evidence of non-necrotizing granulomas in the biopsy specimens; negative mycobacterial and fungal strains; clinical and histopathological evidence of sarcoidosis affecting other organ systems [6].

In terms of GI tract sarcoidosis, the most common symptom is non-bloody diarrhea with colicky pain. To a lesser extent, intestinal bleeding may occur, which mimics Crohn's disease manifestation. Sometimes, presentations may include mesenteric venous insufficiency, megaloblastic anemia, and protein-losing enteropathy [8-10]. However, in rare situations, intestinal obstruction may be the reason for the patient's admission.

Enteroscopic might be pointing out nodular submucosal lesions. Histopathology and unique strains should be obtained to diagnose and exclude mycobacterial and fungi [6]. Abdominal CT sometimes shows adenopathy or liver nodes which suggest sarcoidosis outside the small bowel.

In terms of systemic sarcoidosis, the overall prognosis is good, even though most patients will have organ impairment. They believe that corticosteroids would be the first choice of treatment when organ function is threatened [11].

## 4. Conclusions

Isolated GI tract sarcoidosis is rare, with only a few cases reported worldwide. We herein report a unique case of a Vietnamese patient who underwent a right hemicolectomy due to small bowel obstruction caused by ileal sarcoidosis.

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