

## CASE IMAGE

## Key signs indicating mesenteric panniculitis

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## Abstract

Since patients with mesenteric panniculitis (MP) present non-specific symptoms, diagnosing MP is challenging. We describe a 45-year-old man who developed MP with radiologic findings of a “fat ring sign” and a “tumoral pseudocapsule sign.” These signs shown in the present case are crucial for a precise diagnosis of MP.

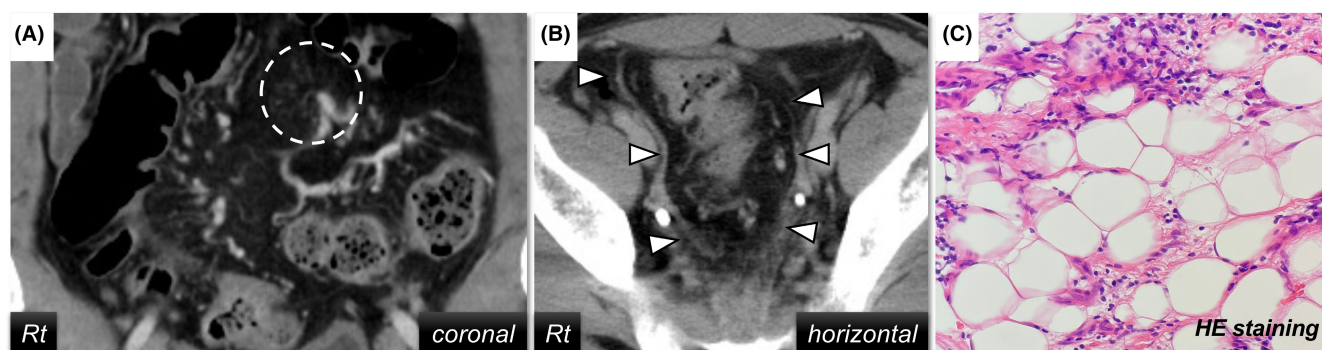
## KEYWORDS

fat ring sign, mesenteric panniculitis, sclerosing mesenteritis and tumoral pseudocapsule sign

A 45-year-old man with a 10-year history of diabetes mellitus presented with abdominal pain, diarrhea, and weight loss that had persisted for several months. Physical assessment revealed lower abdominal tenderness. The results of laboratory tests were unremarkable. Abdominal contrast-enhanced computed tomography showed hallmarks of mesenteric panniculitis (MP): a “fat ring sign” (Figure 1A) and a “tumoral pseudocapsule sign” (Figure 1B), forming a series of inflammatory

lesions in the mesentery. Biopsy was conducted in the presacral mass to rule out malignancy, which showed infiltration of inflammatory cells and fibrosis in the adipose tissue with negative immunoglobulin G4 staining (Figure 1C). We made a diagnosis of MP. Administration of prednisolone (0.5 mg/kg/day) ameliorated his symptoms.

Mesenteric panniculitis, or sclerosing mesenteritis, causes chronic inflammation in mesenteric adipose tissue.<sup>1</sup>



**FIGURE 1** (A, B) Abdominal contrast-enhanced computed tomography showed a “fat ring sign” (A: dotted line) and a “tumoral pseudocapsule sign” (B: arrowheads). (C) Biopsy specimen of the presacral mass showed inflammation and fibrosis in the adipose tissue by hematoxylin and eosin staining (HE staining)

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Since patients with MP present non-specific symptoms such as abdominal pain, diarrhea, and weight loss, diagnosis of MP is challenging. Differential diagnosis of MP includes malignancy, retroperitoneal fibrosis, and epiploic appendagitis.<sup>1</sup> A “fat ring sign” represents hypoattenuating fat closest to the mesenteric vessels and a “tumoral pseudocapsule sign” represents a dense stripe surrounding the lesion in the mesentery, which suggest the diagnosis of MP, as shown in our case.<sup>2</sup> The present case highlights these characteristic signs, leading to a precise diagnosis of MP.

#### AUTHOR CONTRIBUTIONS

**Koichiro Yamamoto:** Writing – original draft. **Hiroyuki Honda:** Writing – review and editing. **Hiroko Ogawa:** Writing – review and editing. **Fumio Otsuka:** Supervision.

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None.

#### CONFLICT OF INTEREST

The authors declare no conflicts of interest.

#### DATA AVAILABILITY STATEMENT

Not applicable.

#### CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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