

Diverticulitis with Colovenous Fistula and Pylephlebitis: Imaging Findings of a Rare Case

Mustafa Koyun¹, Bunyamin Ece²

1) Kastamonu Training and Research Hospital, Department of Radiology, Kastamonu; 2) Kastamonu University, Department of Radiology, Kastamonu, Turkey



A 47-year-old female patient presented with a two-day history of worsening suprapubic and left lower quadrant pain.

Non-contrast abdominal computed tomography (CT) showed multiple diverticula in the sigmoid colon, diffuse wall thickening, fatty stranding, and enlarged lymph nodes (Fig. 1). Due to persistent symptoms, an abdominal CT with oral contrast was performed. The CT revealed intraluminal gas in the inferior mesenteric vein (IMV), along with increased density in the surrounding fatty tissue, indicating inflammation. Oral contrast material and intraluminal gas were also seen in the sigmoidal branches of the IMV (Fig. 2).

Contrast-enhanced T1-weighted images showed diffuse thickening of the IMV walls and mild enhancement suggestive of inflammation in the surrounding fatty tissue (Fig. 3). Non-contrast T1-weighted and fat-suppressed T2-weighted images revealed inflammatory signal changes in the perivascular fatty tissue around the IMV. Linear fluid intensities were noted in both the perivascular fatty tissue and near the left anterior renal fascia. Diffusion-weighted imaging and apparent diffusion coefficient demonstrated diffusion restriction in the IMV. CT and MRI findings confirmed colovenous fistula and pylephlebitis complications.

A colovenous fistula is a dangerous complication of diverticulitis that allows colonic microorganisms to enter the venous system, potentially leading to pylephlebitis, an infective suppurative thrombosis of the portal vein or its branches [1]. The optimal imaging modality for diagnosing these conditions is CT, which can show gas densities in the portal venous system [2-4]. While MRI has been used to demonstrate pylephlebitis

in the portal vein, there is no data on its use in the IMV and its branches [2,5].

In conclusion, early detection using imaging, particularly CT, is crucial. Clinicians, especially radiologists, must be familiar with these imaging features to facilitate prompt diagnosis and management.

Corresponding author: Mustafa Koyun, dr.mustafakoyun@gmail.com

Conflicts of interest: None to declare.

REFERENCES

1. Krzak AM, Townson A, Malam Y, Mathews J. Diverticulitis complicated by colovenous fistula formation and pylephlebitis. *J Surg Case Rep* 2022;2022:rjab591. doi:[10.1093/jscr/rjab591](https://doi.org/10.1093/jscr/rjab591)
2. Cabrera F, Hernandez EL, Ray M, et al. Pylephlebitis both a surgical and non-surgical pathology: A 2-case report and literature review. *J Liver Res Disord Ther* 2018;4:80-83. doi:[10.15406/jlrdt.2018.04.00104](https://doi.org/10.15406/jlrdt.2018.04.00104)
3. Jevtic D, Gavranic T, Pantic I, et al. Suppurative Thrombosis of the Portal Vein (Pylephlebitis): A Systematic Review of Literature. *J Clin Med* 2022;11:4992. doi:[10.3390/jcm11174992](https://doi.org/10.3390/jcm11174992)
4. Balthazar EJ, Gollapudi P. Septic thrombophlebitis of the mesenteric and portal veins: CT imaging. *J Comput Assist Tomogr* 2000;24:755-760. doi:[10.1097/00004728-200009000-00017](https://doi.org/10.1097/00004728-200009000-00017)
5. Fusaro L, Di Bella S, Martingano P, Croce LS, Giuffrè M. Pylephlebitis: A Systematic Review on Etiology, Diagnosis, and Treatment of Infective Portal Vein Thrombosis. *Diagnostics (Basel)* 2023;13:429. doi:[10.3390/diagnostics13030429](https://doi.org/10.3390/diagnostics13030429)