

The “central dot sign” in acute epiploic appendagitis

Dario Giambelluca ¹, Mariangela Dimarco,¹ Maria Roberta Vaccaro Notte,¹ Giuseppe Lo Re,¹ and Massimo Midiri¹

¹Section of Radiological Sciences, Di.Bi.Med, University of Palermo, Via del Vespro 127, 90127 Palermo, Italy

The “central dot sign” is a characteristic radiological finding of acute epiploic appendagitis described on CT images [1]. This appearance is generated by a central, hyperattenuating, ill-defined round area within a well-circumscribed fat-density ovoid lesion. This latter is surrounded by a thin hyperdense rim that abuts the large bowel wall. Furthermore, the lesion is associated with fat stranding indicating acute inflammation (Fig. 1) [2].

Epiploic appendagitis is an uncommon cause of abdominal pain, due to a benign, self-limiting inflammatory or ischemic process involving epiploic appendages of colon. This condition is caused by torsion of a large and pedunculated epiploic appendix or spontaneous thrombosis of the venous outflow resulting in vascular occlusion and focal inflammation. Classically, epiploic appendagitis affects the sigmoid colon or cecum. It may occur with different clinical presentations, mimicking other causes of acute abdominal pain, particularly acute diverticulitis or acute appendicitis [3].

The central dot sign is suggestive of engorged or thrombosed vascular pedicle within the inflamed epiploic appendage (Fig. 2). Although this sign is pathognomonic, it is found infrequently and its absence does not exclude the diagnosis of acute epiploic appendagitis [1].

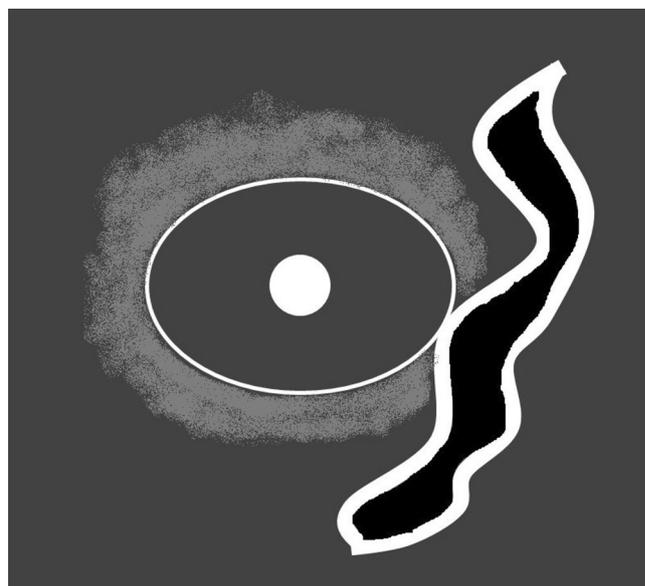


Fig. 1. Schematic image of CT appearance of acute epiploic appendagitis. The fat-density ovoid lesion is surrounded by a thin high attenuation rim (“the hyperattenuating ring sign”) and abuts the anterior colonic wall. The central white circle marks the thrombosed vascular pedicle within the inflamed epiploic appendage (“central dot sign”). Fat stranding appears as ill-defined increased attenuation of the adjacent fat.

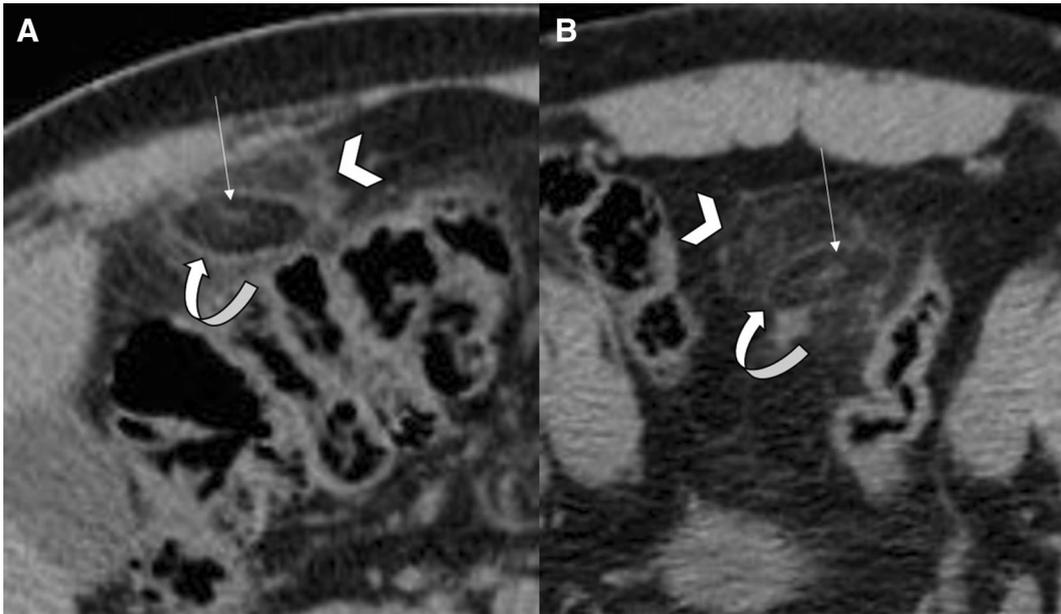


Fig. 2. Acute epiploic appendagitis in two different patients. Axial unenhanced CT images show two fatty ovoid lesions with hyperdense rim (curved arrows) that abut transverse

colon (**A**) and sigmoid colon (**B**), and contain central hyperattenuating focal area, representing the “central dot sign” (arrows). Fat stranding is seen nearby (arrowheads).

Differential diagnosis for the imaging appearance of acute epiploic appendagitis includes acute appendicitis, acute diverticulitis, acute omental infarction, mesenteric panniculitis, and fat-containing tumors [4].

Compliance with ethical standards

Funding No funding was received for this study.

Disclosure of potential conflict of interest The authors declare that they have no conflict of interests.

Research involving Human Participants and/or Animals This article does not contain any studies with human participants or animals performed by any of the authors.

Informed consent Statement of informed consent was not applicable since the manuscript does not contain any patient data.

References

1. Almeida AT, Melão L, Viamonte B, et al. (2009) Epiploic appendagitis: an entity frequently unknown to clinicians—diagnostic imaging, pitfalls, and look-alikes. *Am J Roentgenol* 193(5):1243–1251. <https://doi.org/10.2214/AJR.08.2071>
2. Singh AK, Gervais DA, Hahn PF, et al. (2004) CT appearance of acute appendagitis. *Am J Roentgenol* 183:1303–1307. <https://doi.org/10.2214/ajr.183.5.1831303>
3. Ghahremani GG, White EM, Hoff FL, et al. (1992) Appendices epiploicae of the colon: radiologic and pathologic features. *Radiographics* 12(1):59–77. <https://doi.org/10.1148/radiographics.12.1.1734482>
4. Singh AK, Gervais DA, Hahn PF, et al. (2005) Acute epiploic appendagitis and its mimics. *Radiographics* 25(6):1521–1534. <https://doi.org/10.1148/rg.256055030>