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The cluster sign

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Description

The cluster sign is a radiological finding associated with pyogenic liver abscesses that better appreciated on contrast-enhanced CT and MRI images. It was first described by Jeffrey et al. in 1988 [1].

On CT scan (Figure 1), the cluster sign manifests as a hypoattenuating lesion consisting of smaller aggregating cystic formations, which demonstrate peripheral enhancement on post-contrast imaging. On MRI, the smaller cystic formations cluster together, appearing hypointense on T1-weighted images and hyperintense on T2-weighted images, with rim enhancement noted on post-gadolinium images.

The main differential diagnoses of the liver cluster sign include cystic metastasis and biliary cystadenocarcinoma.

References

1. Jeffrey RB Jr, Tolentino CS, Chang FC, Federle MP (1988) CT of small pyogenic hepatic abscesses: the cluster sign. Am J Roentgenol. 151(3): 487-489.
2. Halvorsen RA, Korobkin M, Foster WL, Silverman PM, Thompson WM. The variable CT appearance of hepatic abscesses. Am J Roentgenol. 1984; 142(5): 941-946.



Figure 1: Axial CT image of the abdomen with intravenous contrast of a 50-year-old diabetic man admitted with acute pain in the right hypochondrium and fever, showing a hypoattenuating lesion consisting of smaller aggregating cystic lesions (red arrow) with a minimal peripheral enhancement ➡ cluster Sign.

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