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Infection in liver: The cluster sign

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Description

The “cluster sign” or “grape cluster sign” (Figure 1) was first introduced by Jeffrey et al. in 1988 to describe multiple small, tightly positioned liver abscesses associated with pyogenic bacterial liver infections [1]. On CT scan (Figure 2), these lesions usually appear as rounded cavities containing fluid of near-water density, resembling ill-defined hepatic cysts, with peripheral or border capsular enhancement [2].

On MRI, clustered liver abscesses appear as areas of low signal intensity on T1-weighted images and areas of high signal intensity on T2-weighted images [3]. This cluster pattern is usually absent in fungal or mycobacterial micro abscesses [1]. Differential diagnoses include metastases, infarction, biliary cystadenocarcinoma and macronodular mycobacterial infection [2,3].

References

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Figure 1: Axial (a) and sagittal (b) section CT scan of the abdomen of a 46-year-old diabetic woman, admitted for acute right hypochondrium pain and fever, reveals a hypodense lesion composed of multiple small clustered cystic structures (arrow). The lesion shows minimal peripheral enhancement, consistent with cluster sign.

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