

The interface sign

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Ascites and pleural effusions represent abnormal accumulations of fluid in the peritoneal and intrathoracic cavity, respectively and are common findings on chest and abdominal computed tomography (CT). These conditions sometimes share the same etiologies, sometimes even coexisting in the same patient. When they occur separately, their differentiation by CT images is not always straightforward, as free fluid tends to accumulate in posterior and lateral pleural recesses and around the liver and spleen in patients lying supine [1].

However, there are some classic CT findings that aid in correct characterization [1, 2]. One classic sign described for this differentiation is the interface sign: in

ascites, there is a direct contact of the free peritoneal fluid with the liver and/or spleen, leading to a sharp interface between the fluid and these organs. In pleural effusion, however, both liver and spleen are separated from the fluid in the thorax by the diaphragmatic crus, generating an ill-defined interface.

It is noteworthy, however, that although helpful, the interface sign should not be considered isolated, as it may sometimes be misleading [1, 2]. This sign was able to correctly classify 80% of these two fluid collections in its original series [2] (Figs. 1 and 2).

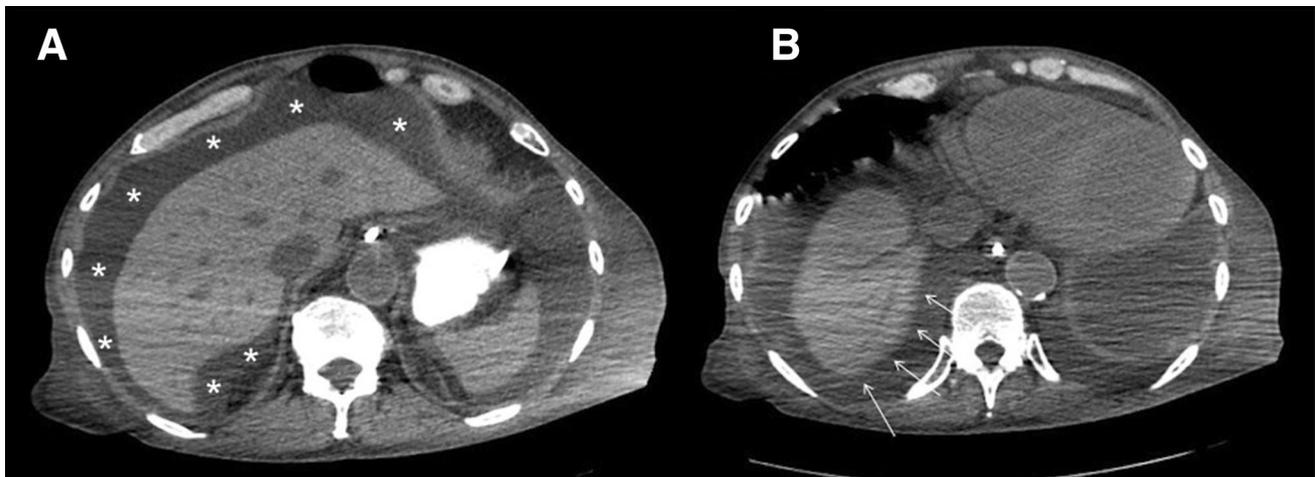


Fig. 1. The interface sign. Abdominal CT in axial view of a patient with both ascites and pleural effusion. **A** Lower level showing the liver surrounded by fluid maintaining its sharp borders, representing ascites (white asterisks). **B** Upper level

also depicting the liver surrounded by fluid, however, its medial borders (white arrows) are ill-defined, as the right crus is interposed between the liver and the pleural effusion.

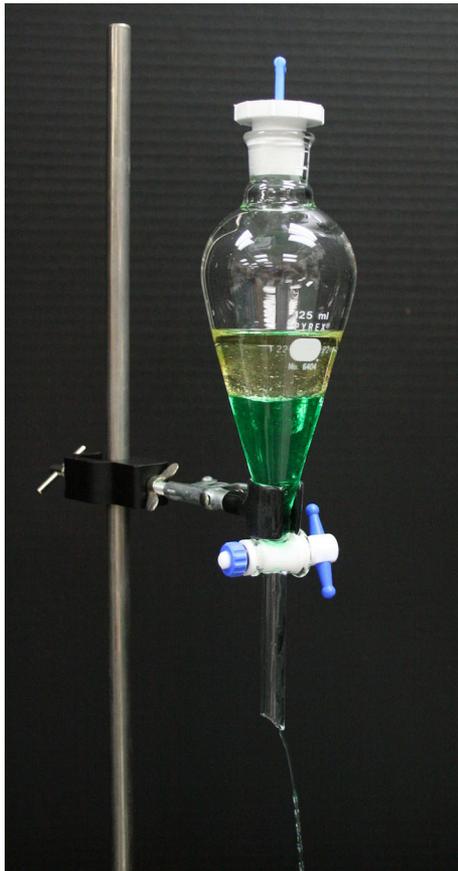


Fig. 2. A separatory funnel demonstrating the separation of oil and colored water. The oil–water interface may be metaphorically compared to the interface sign. Available at https://commons.wikimedia.org/wiki/File:Separatory_funnel_with_oil_and_colored_water.jpg.

Compliance with ethical standards

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Ethical approval This article does not contain any studies with human participants or animals performed by any of the authors.

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