

The wall-echo-shadow (WES) sign

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Ultrasound detection of cholelithiasis can be difficult if the lumen of the gallbladder is completely occupied by a large calculus or multiple small calculi, as the appearance can mimic bowel [1]. The typical sonographic depiction in this setting is the wall-echo-shadow complex, also termed the WES sign [2]. The “W” is the near field “wall” of the gallbladder, seen as a curvilinear echogenic line. The “E” is the subjacent “echo” from highly reflective gallstones, likewise seen as a curvilinear echogenic line. These parallel lines are discernible individually because of anechoic bile between them. The “S” represents the typical acoustic “shadowing” from almost complete reflection of sound at the surface of the gall-

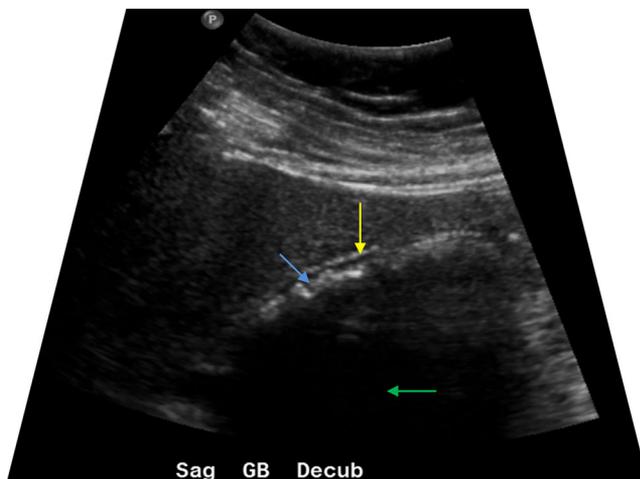


Fig. 1. Sagittal view of the gallbladder in a patient with right upper quadrant pain demonstrating the three components of the WES sign. The wall is seen as a thin, smooth echogenic line (yellow arrow), the echo as a more irregular echogenic line (blue arrow), and the shadow, a dark zone posteriorly (green arrow).

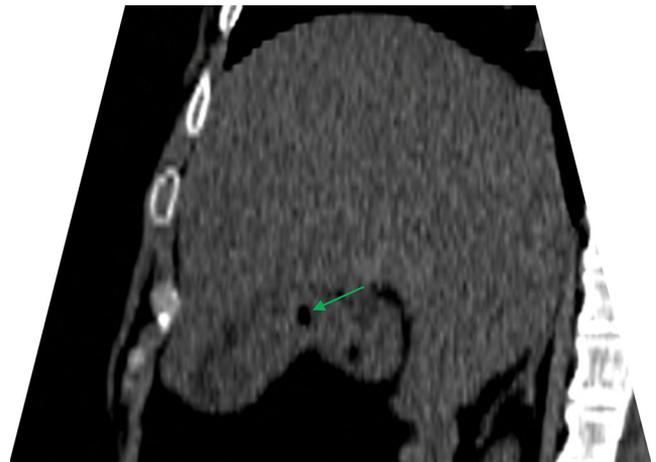


Fig. 2. Coronal oblique reconstruction of the same patient's CT reveals gallbladder calculi, some containing nitrogen (green arrow).

stone(s) (Fig 1). The WES sign can be mimicked by other gallbladder pathologies such as emphysematous cholecystitis, (gas in the gallbladder wall), and porcelain gallbladder, (mural calcification). CT can be helpful in excluding these differential diagnoses [3] (Fig 2).

References

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