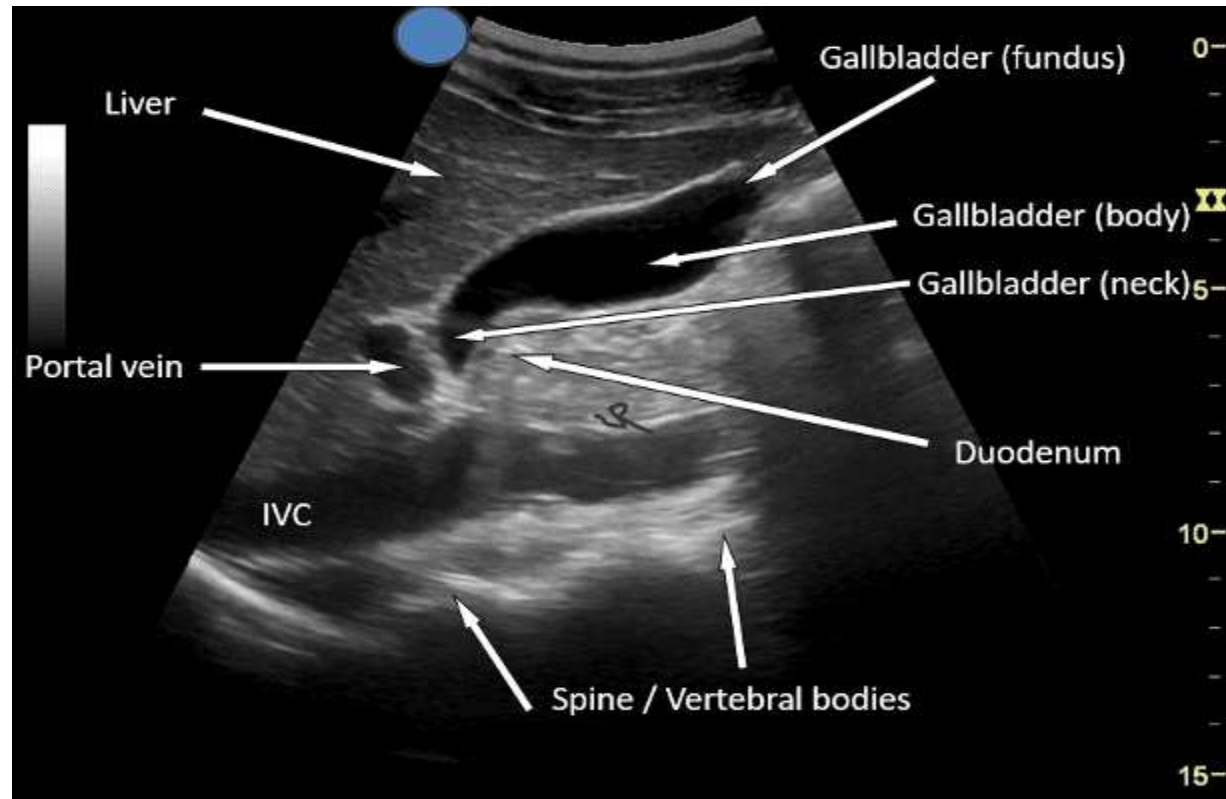


Normal gallbladder and biliary tract

On the longitudinal scan the gallbladder will appear as an echo-free, pear-shaped structure. It is very variable in position, size and shape.



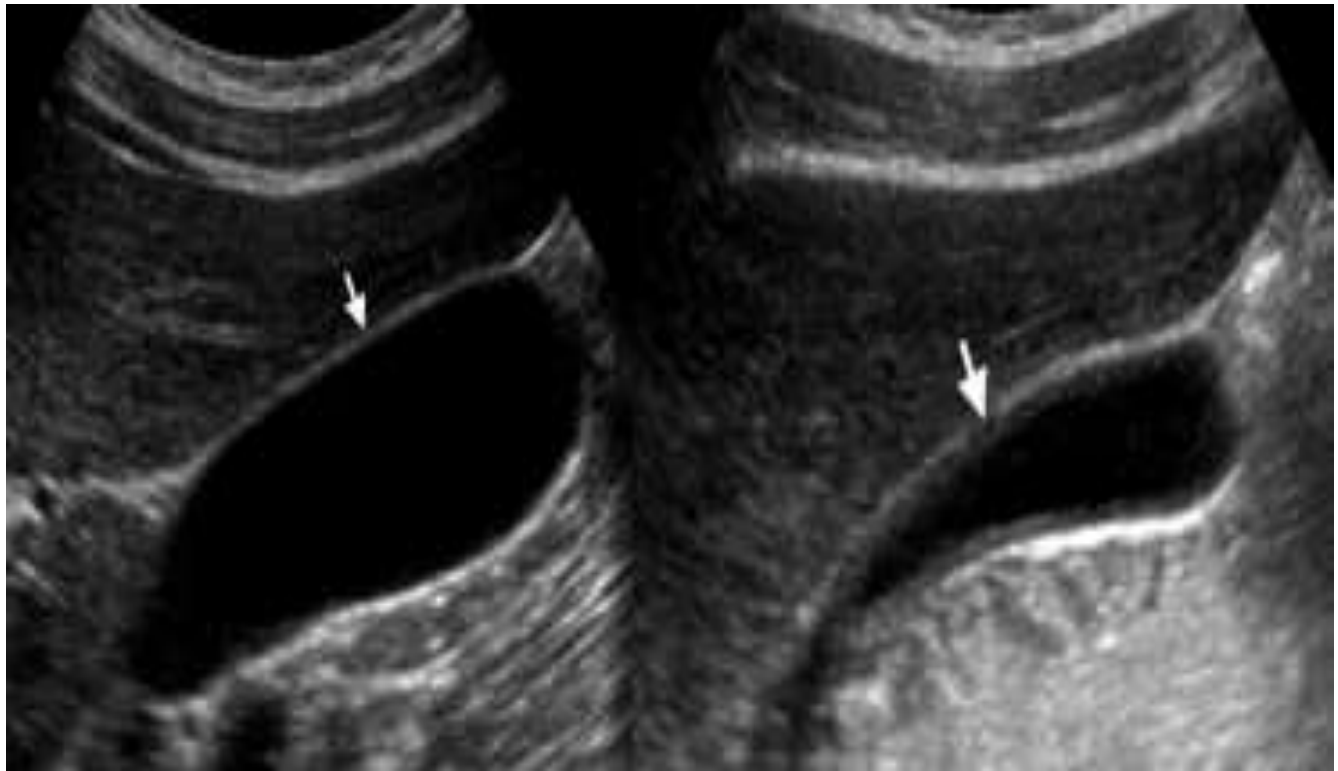
Longitudinal scan

Gall bladder – transverse scan

gall bladder , portal vein , hepatic artery, CBD, IVC and aorta



The normal thickness of the gallbladder wall 3 mm or less and 1 mm when the gallbladder is distended



The diameter of the common bile duct is variable but should not exceed 9 mm near its entrance into the pancreas.





Abnormal gallbladder and biliary tract:

distended gallbladder.

Acute cholecystitis.

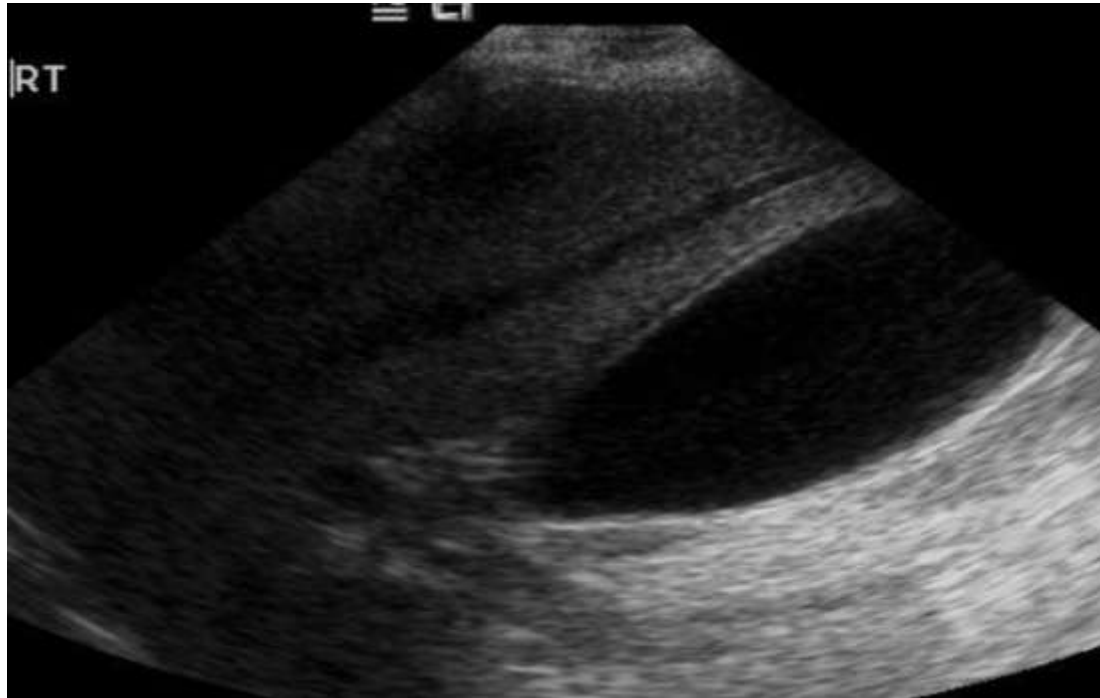
Echoes within the gallbladder.

Enlarged (distended) gallbladder

- The gallbladder is enlarged if it exceeds 4 cm in width (transverse diameter).
- The normal gallbladder may appear distended when the patient is:
 - 1- dehydrated
 - 2- on a low-fat diet.
 - 3- on intravenous nutrition

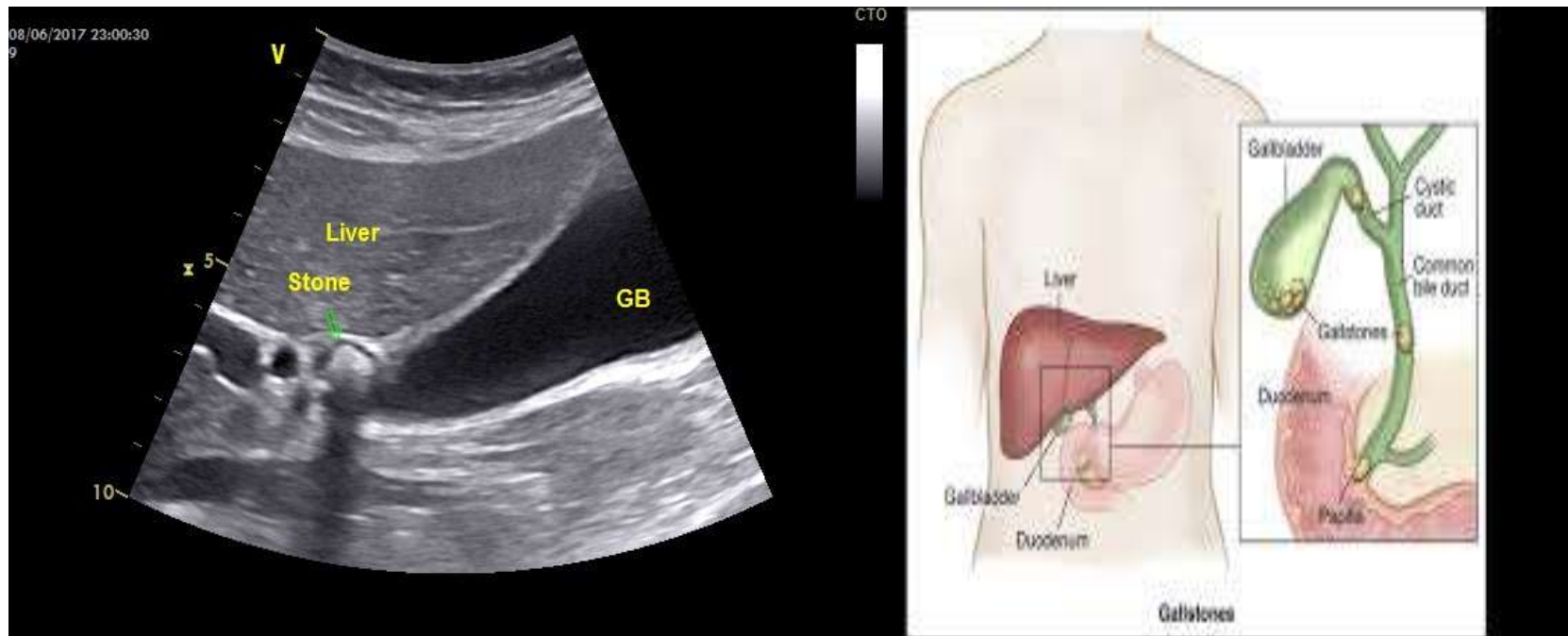
In all above causes gall bladder seen with thin wall and the gall bladder will contract after fatty meal

Thin wall distended gall bladder



If gall bladder not contract after fatty meal search for :

I- Cystic duct obstruction (gall stone or others), the
common hepatic and CBD ducts not dilated



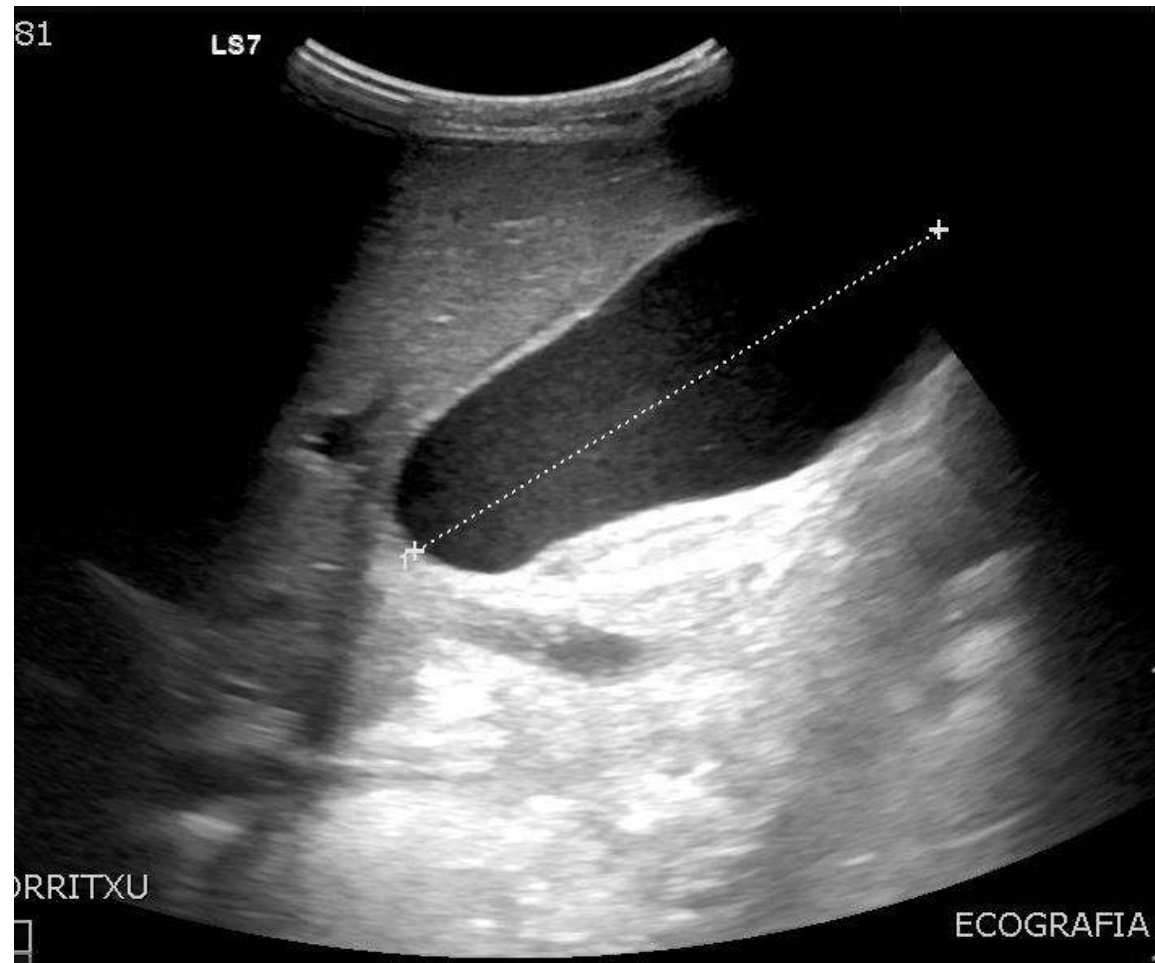
2- A stone or other obstruction in the common bile duct.(dilated CBD and hepatic ducts)



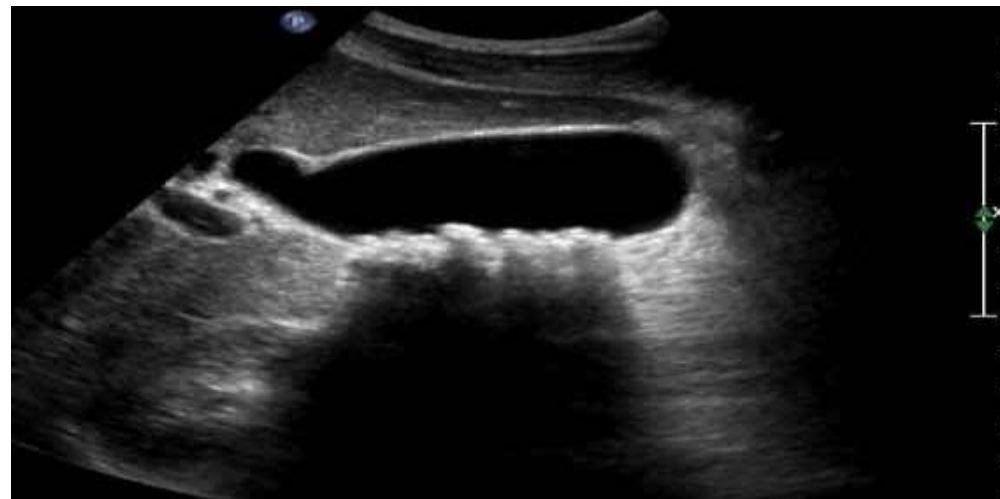
If the gallbladder is distended with thickened walls (greater than 5 mm) and filled with fluid internal echose, there may be an **empyema**



If the gallbladder is distended with thin walls and filled with fluid, there may be a **mucocele**

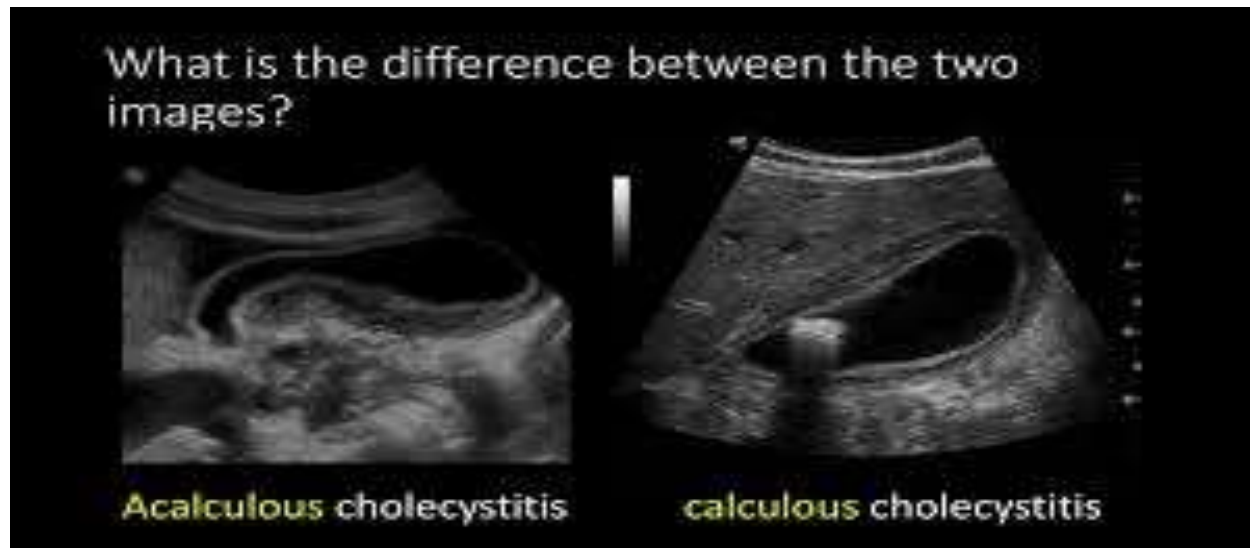


Gall stones (Echoes within the gallbladder)



Acute cholecystitis

- There may be one or more gallstones in gallbladder body , neck or in the cystic duct (**calculous cholecystitis**). The walls of the gallbladder are likely to be thickened and edematous usually associated with pain in the right upper abdomen.
- If above features seen but there is no gall stones that's mean (**acalculous cholecystitis**)



Mobile internal echoes without shadowing

- Gall bladder sludge



Non mobile internal echoes with shadowing

- Impacted gall stone



Non mobile internal echoes without shadowing

- Gall bladder polyp





thank you