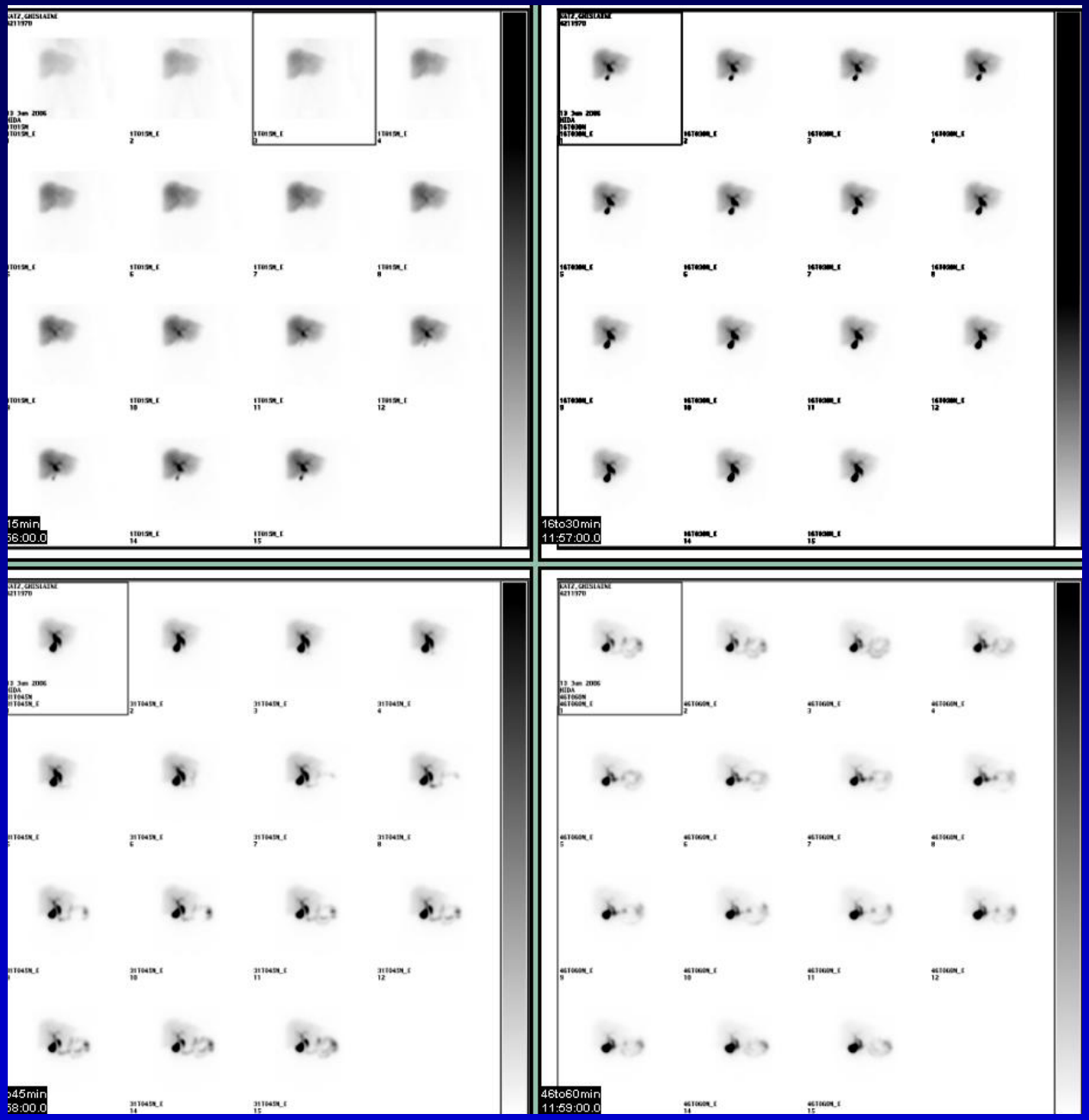
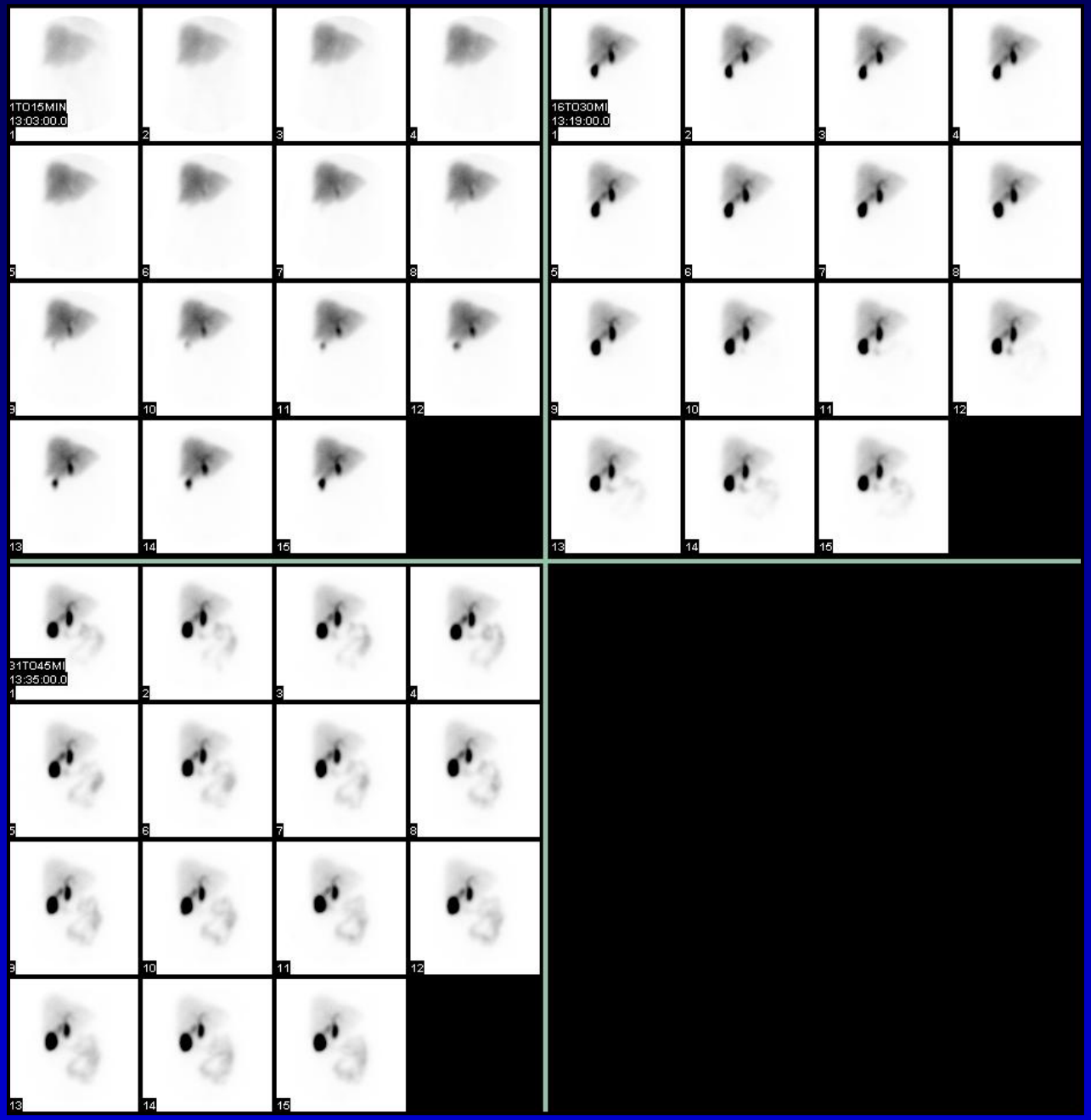


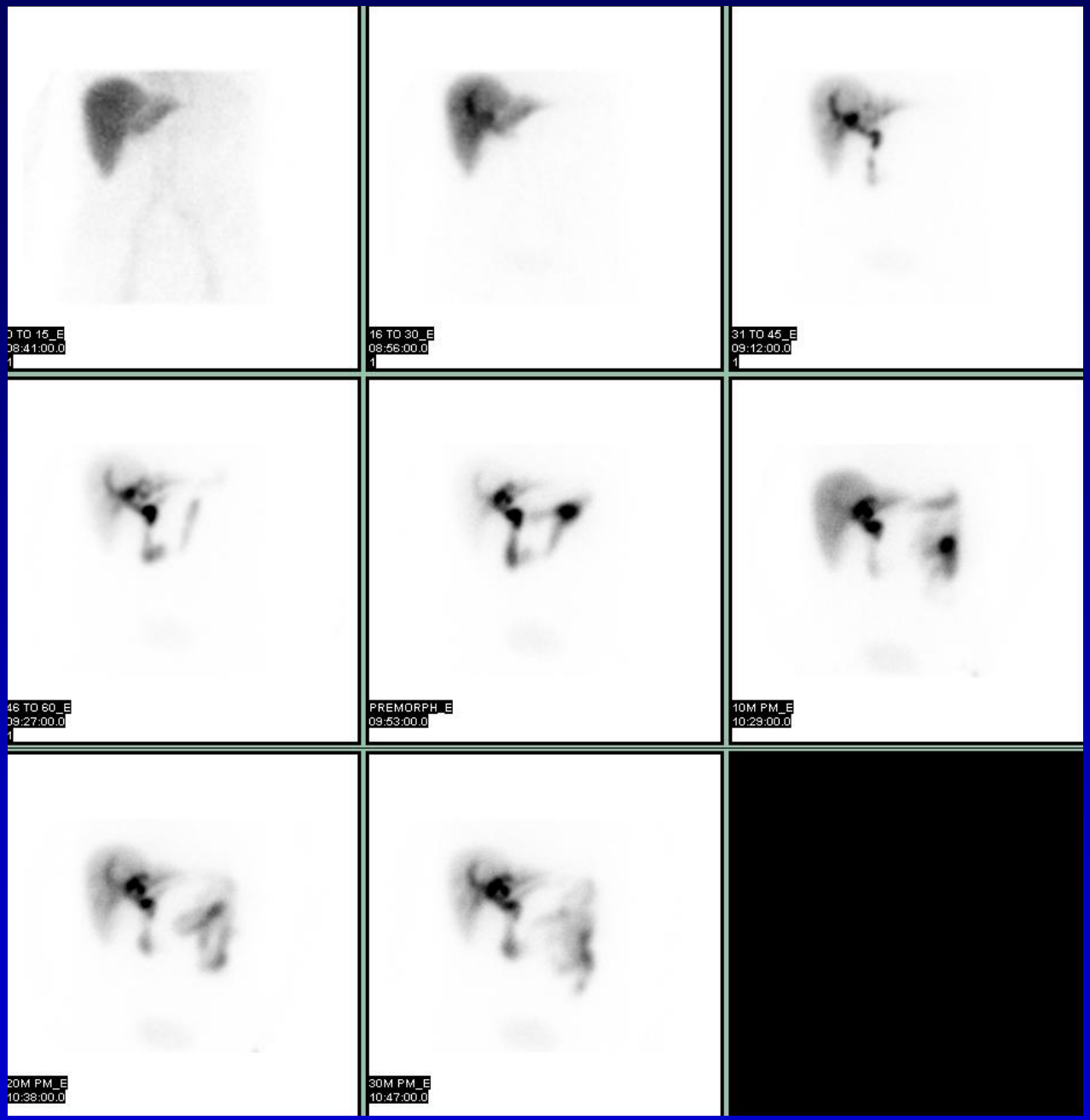
Dynamic or Static images of the abdomen are acquired after the IV administration 6-8 mCi of Tc99m disofenin or mebrofenin, for one hour. Patients have to be NPO for 4-24 hrs. Common indications being assessment for acute or chronic cholecystitis, CBD obstruction or bile leak. Blood pool activity, seen in the heart or the spleen, disappears by 10 minutes and within an hour activity is normally seen in the biliary tract, gall bladder and the bowel. Delayed images may be acquired with or without intervention.

A Normal HIDA Scan



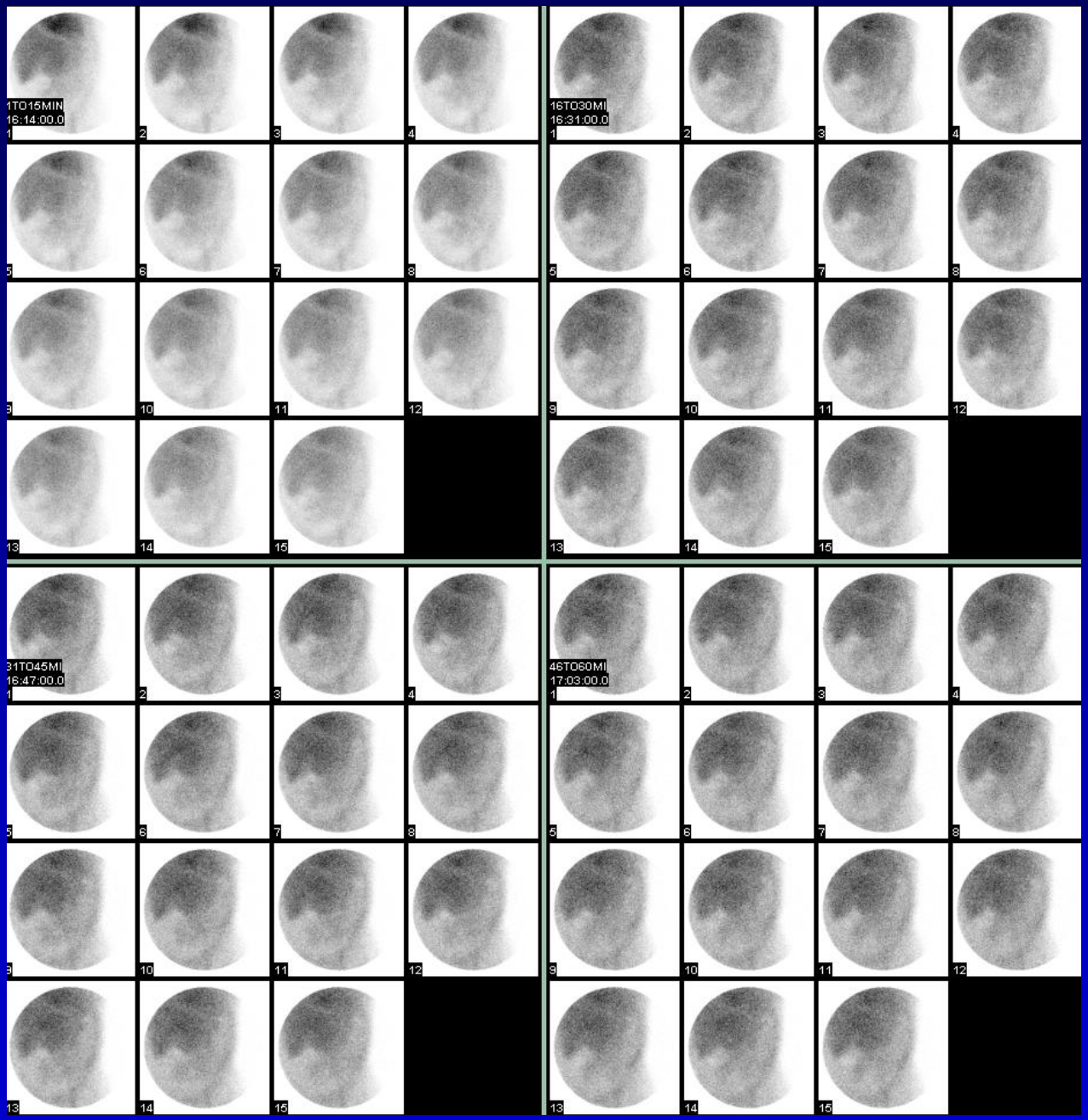
Dynamic images (in sets of 15 minutes, 1 minute per frame) show prompt and uniform uptake in the liver and within 45 mins activity is seen in the biliary tract, gall bladder and the bowel. Patent cystic duct has ruled out acute cholecystitis and the study was shortened to 45 min.

A Normal HIDA Scan

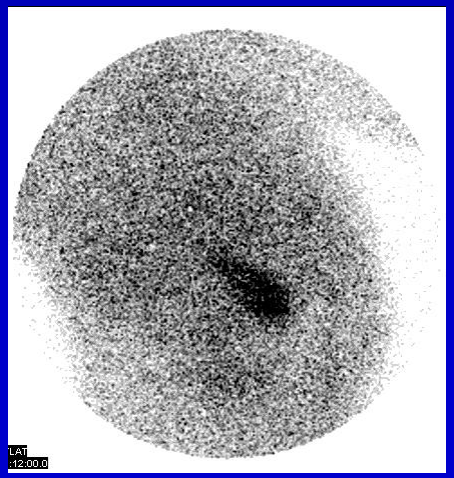


Static images (one every 15 minutes) show prompt and uniform uptake in the liver and within an hour activity is seen in the biliary tract, and the bowel. No gall bladder activity is seen on the additional static images (every 10 min for 30 min) acquired after the administration of morphine (contracts the sphincter of Oddi and increases the pressure in the system, forcing activity in the gall bladder). Note that more activity was given at the time of giving morphine.

Acute Cholecystitis



Dynamic images showing delayed uptake in the liver, persistence of blood pool activity, and no excretion of the tracer from the liver, consistent with severe hepato-cellular dysfunction. 24 hour delayed image (right lateral view) shows activity in the gall bladder ruling out acute cholecystitis.



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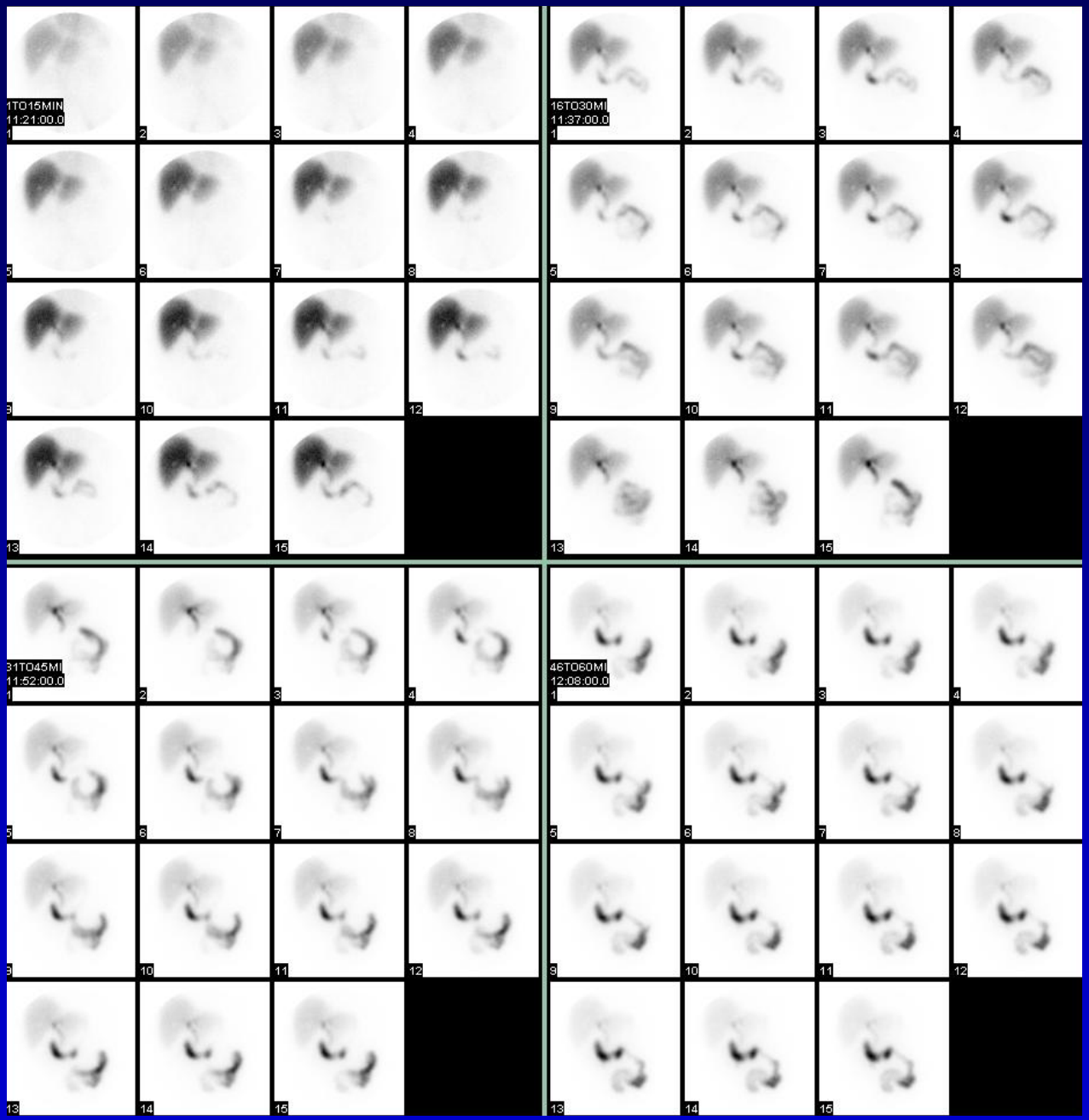
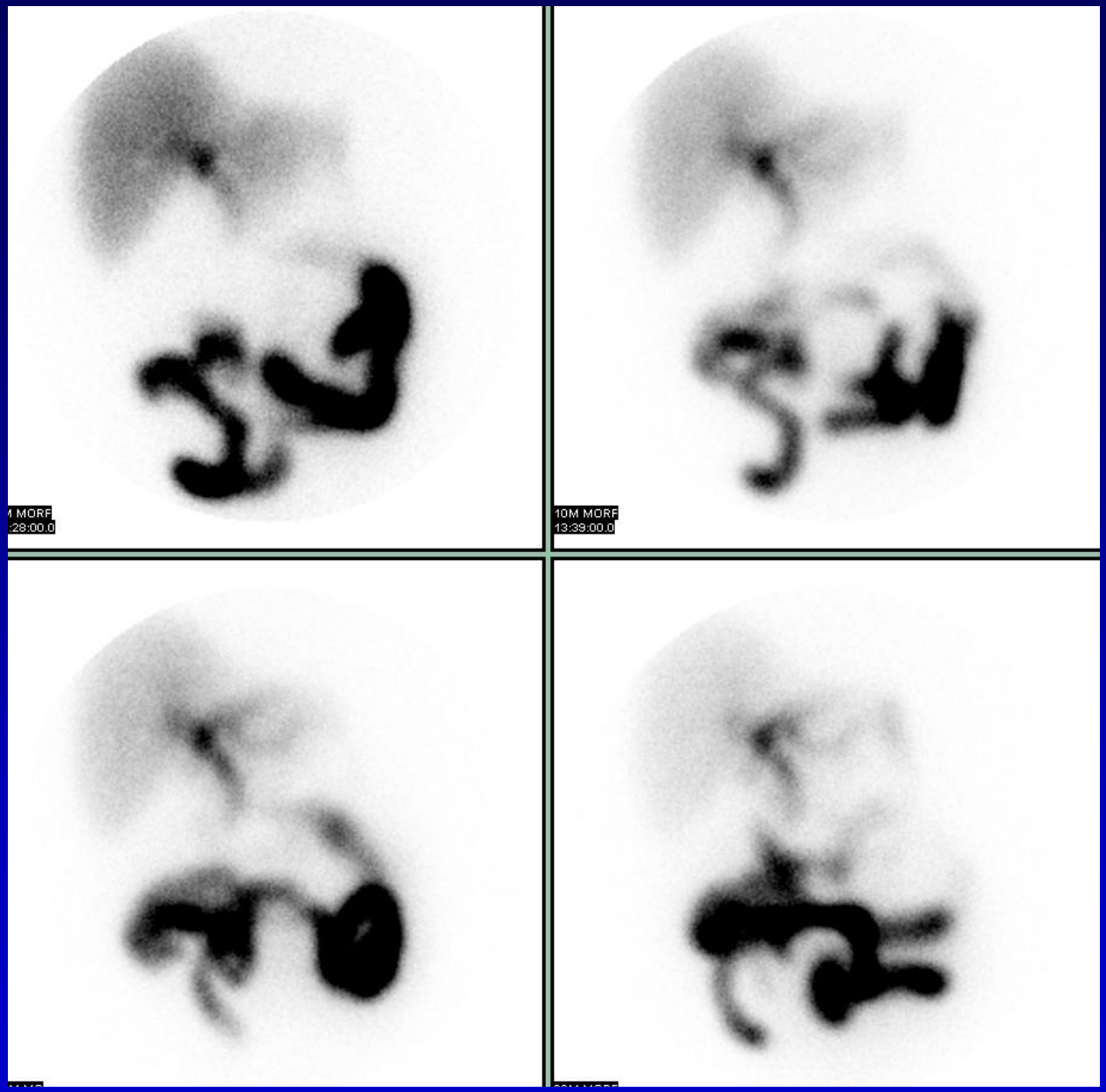
Hepatocellular Dysfunction

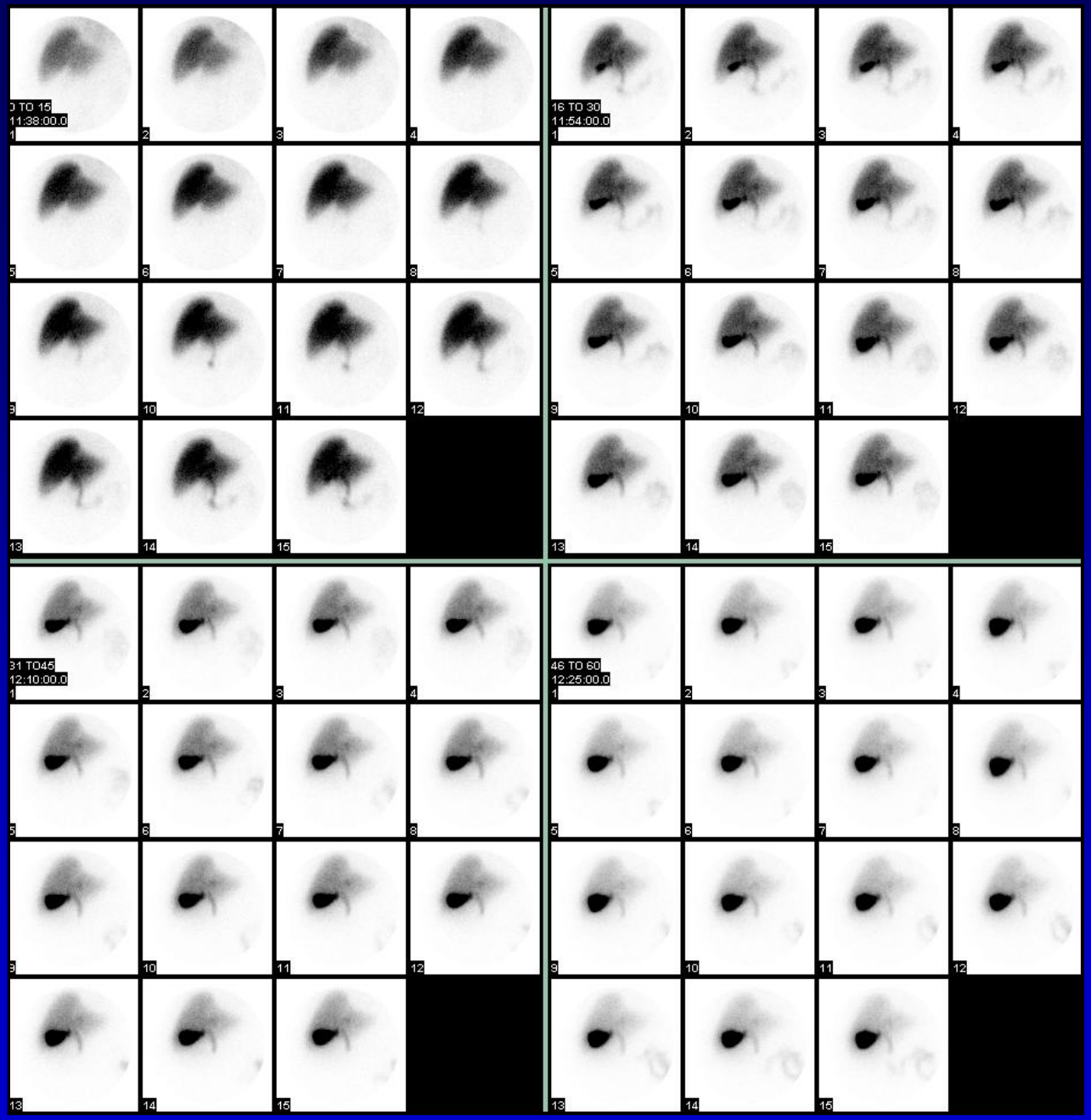


Dynamic images (in sets of 15 minutes, 1 minute per frame) show prompt and uniform uptake in the liver and within 60 mins activity is seen in the biliary tract, and the bowel. No activity is seen in the gall bladder. Post morphine images also do not show any activity in the gall bladder, confirming the diagnosis of acute cholecystitis.

Acute Cholecystitis

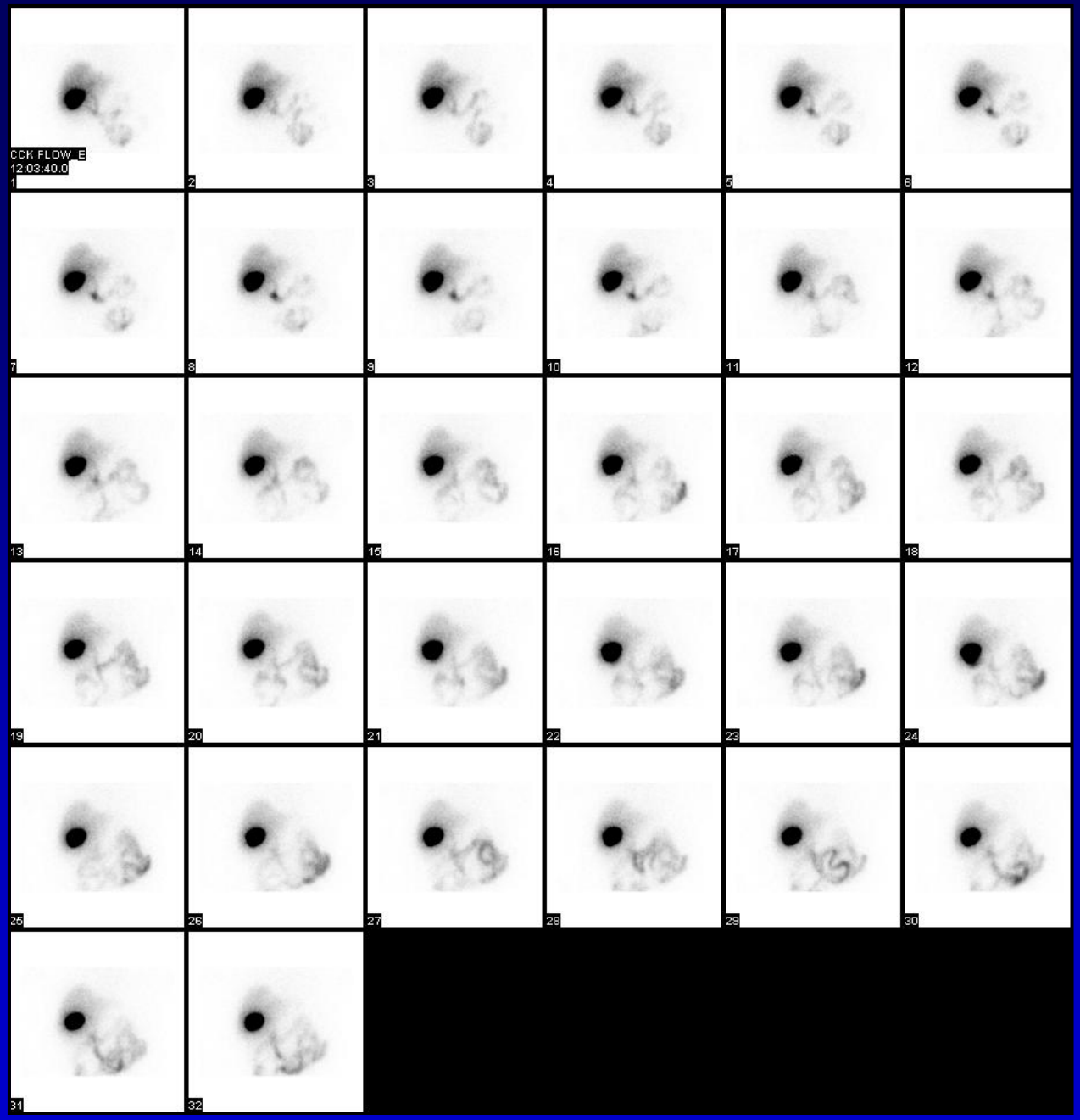


Acute Cholecystitis

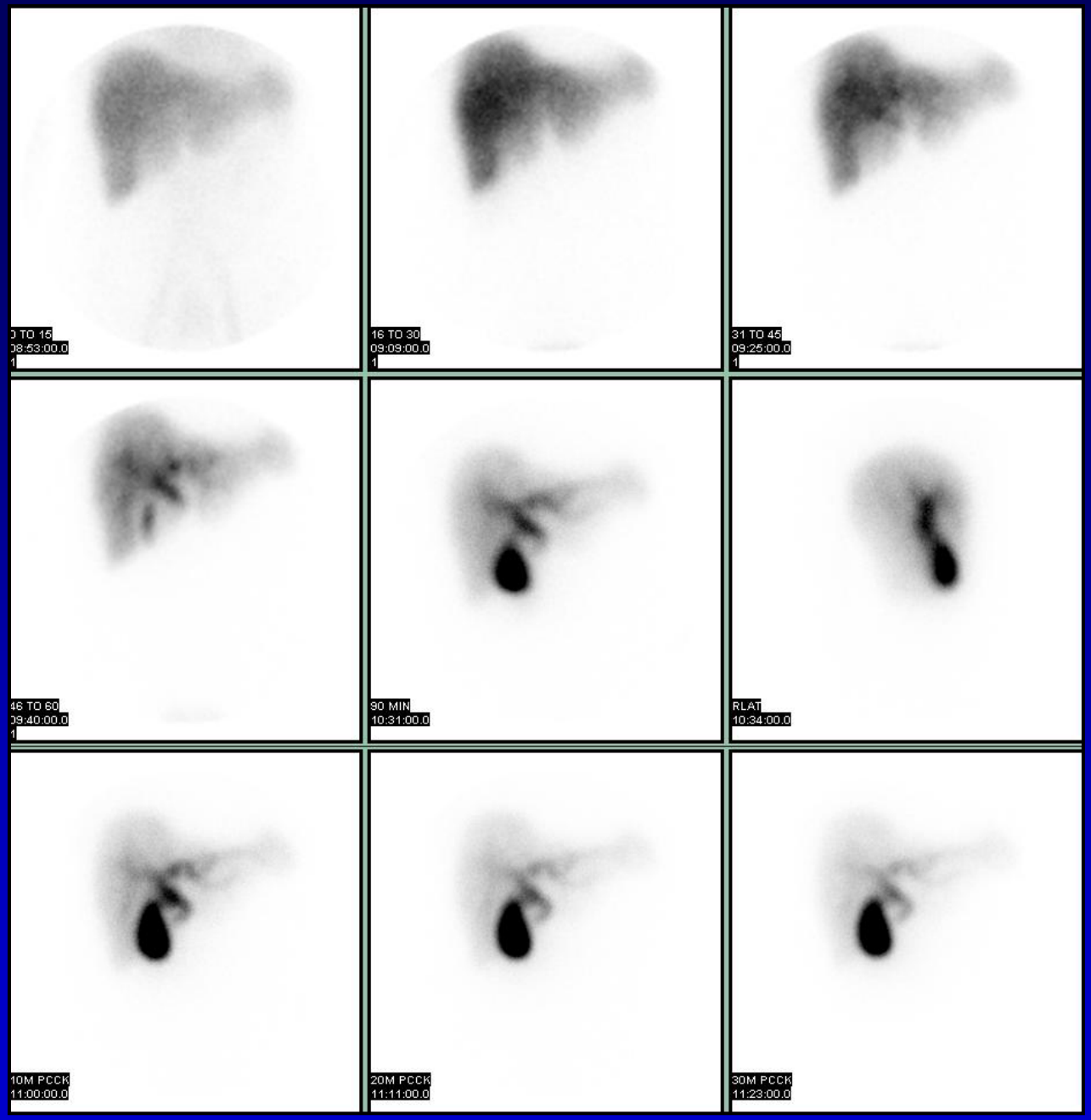


Dynamic images (in sets of 15 minutes, 1 minute per frame) show prompt and uniform uptake in the liver and within 60 mins activity is seen in the biliary tract, gall bladder and the bowel. More dynamic images were acquired after the administration of CCK (contracts the gall bladder and relaxes the sphincter of Oddi), and the gall bladder ejection fraction was calculated.

Chronic Cholecystitis

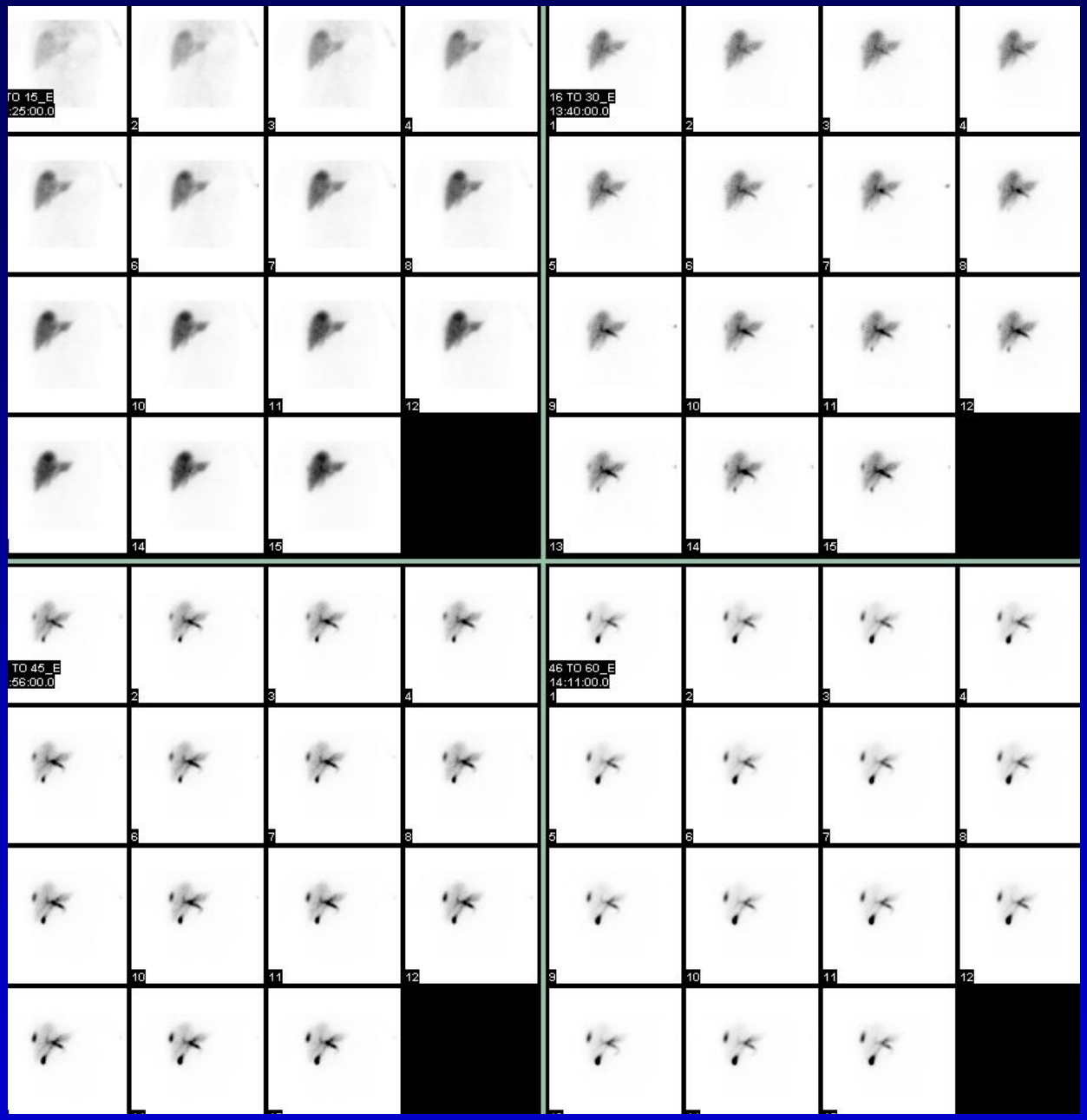


Visually, the images do not show any significant emptying of the gall bladder, and the ejection fraction was calculated to be 9% (normal value is 30-35%). These findings are likely to be consistent with chronic cholecystitis.



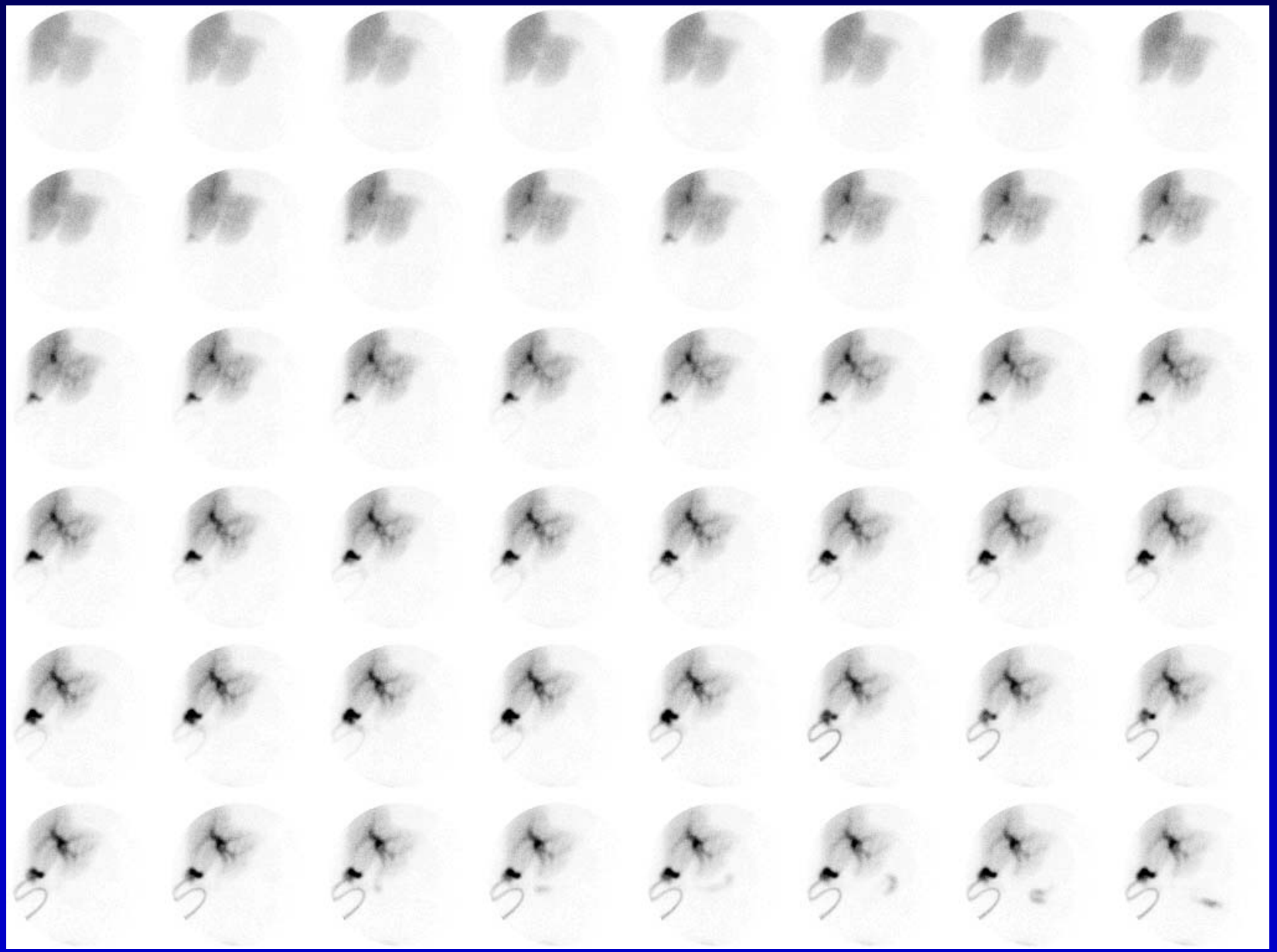
Static images (one every 15 minutes) show prompt and uniform uptake in the liver and within an hour activity is seen in the biliary tract, and the gall bladder. No activity is seen in the bowel. This could be a normal variant of delayed bowel visualization, but no bowel activity is seen on the delayed images acquired after the administration of CCK, which is suspicious for CBD obstruction. The classic finding of CBD obstruction is the “liver scan” sign.

CBD Obstruction

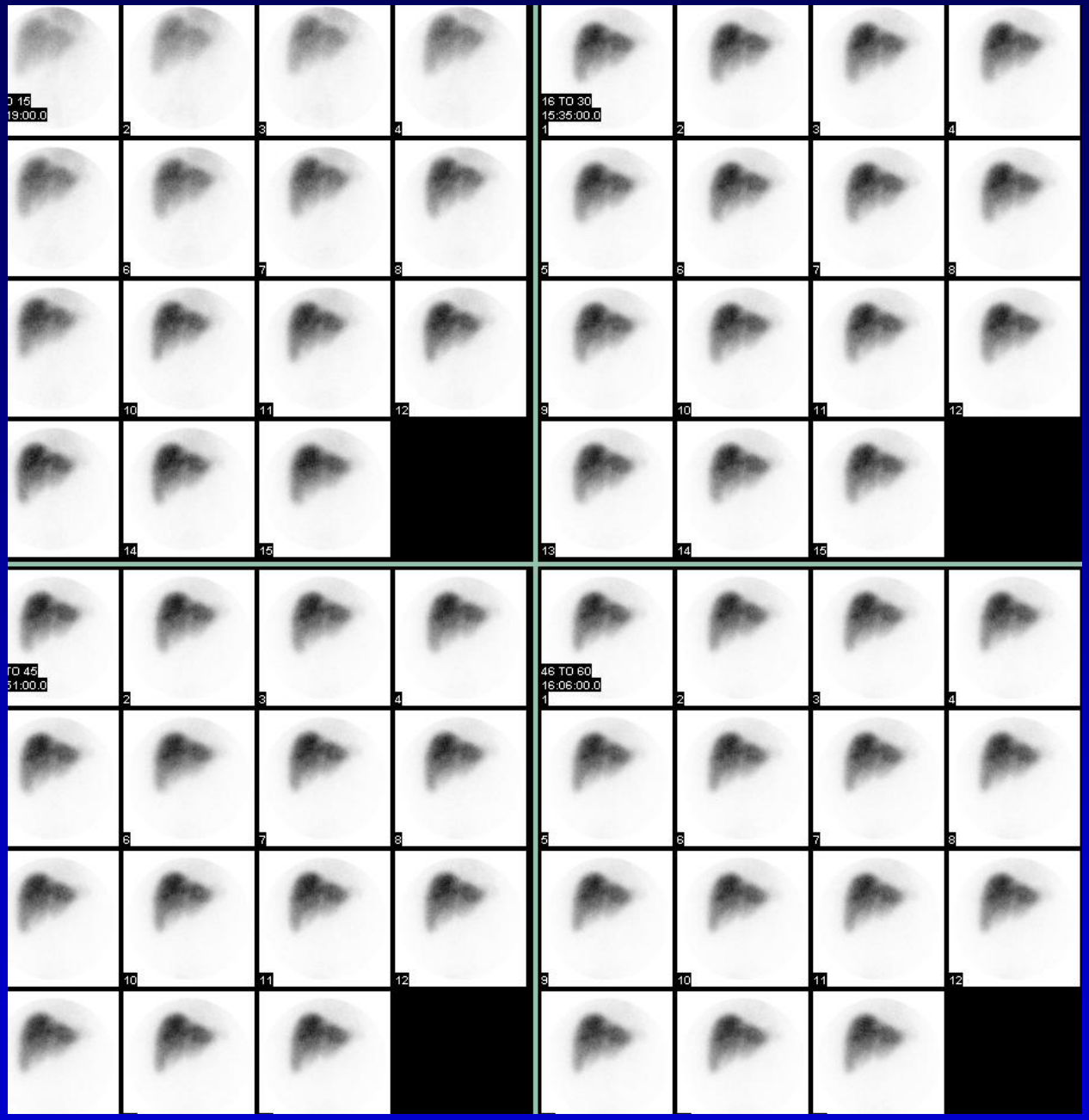


Dynamic images (in sets of 15 minutes, 1 minute per frame) show prompt and uniform uptake in the liver and within 60 mins activity is seen in the biliary tract, and the gall bladder. A focus of increasing activity seen on the lateral aspect of the liver is from bile leak, secondary to a recent liver biopsy procedure, and was self limited.

Bile leak after liver biopsy



Bile leak after cholecystectomy, into the RUQ and the surgical drain



Dynamic images (in sets of 15 minutes, 1 minute per frame) show prompt and uniform uptake in the liver but no excretion of the tracer. The ultrasound sometimes does not show dilated ducts as the physiological changes precede anatomical changes. Patho-physiologically, the system proximal to obstruction is filled with non-radioactive bile and so, there is no excretion of the tracer.

"Liver scan" sign of CBD Obstruction