

Morphine-augmented cholescintigraphy enhances duodenogastric reflux

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Morphine intervention in cholescintigraphy decreases imaging time to diagnose acute cholecystitis. Not infrequently we observe duodenogastric reflux during scintigraphy with and without morphine intervention. To evaluate occurrence of duodenogastric reflux related to morphine, we reviewed 55 patients who underwent cholescintigraphy with (32) and without (23) morphine intervention. Morphine was injected when there was bowel activity with non-visualization of the gallbladder at 60 min. Duodenogastric reflux was identified by the appearance of activity in the area just below or immediately adjacent to the tip of the left hepatic lobe laterally. Among 32 patients with morphine intervention, 19 had acute cholecystitis and 13 chronic cholecystitis. Eleven of 19 (58%) with acute cholecystitis had duodenogastric reflux and 6 of 13 (46%) had duodenogastric reflux in chronic cholecystitis. The total of duodenogastric reflux in the group with morphine injection was 53%. Two patients' duodenogastric reflux occurred before morphine injection and was more apparent after morphine was given. In the without morphine group, 3 had acute cholecystitis and 20 had chronic cholecystitis; 2 (one acute and one chronic cholecystitis) of these 23 (9%) had duodenogastric reflux. Our results indicate: (1) occurrence of DG reflux in morphine augmented cholescintigraphy is not significantly different in cholecystitis from that in chronic cholecystitis; (2) duodenogastric reflux in morphine augmentation occurs significantly more often than without morphine intervention ($p < 0.001$). We conclude that cholescintigraphy with morphine enhances duodenogastric reflux. The degree of duodenogastric reflux in the acute cholecystitis patients has been more severe than in the chronic cholecystitis patients.

Key words: cholescintigraphy, duodenogastric reflux, morphine, acute cholecystitis, chronic cholecystitis, Tc-99m BRIDA, sphincter of Oddi