

Distinguishing benign from malignant gallbladder wall thickening using FDG-PET

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Objective: Because thickening of the gallbladder wall is observed not only in patients with gallbladder cancer but also in those with benign diseases such as chronic cholecystitis and gallbladder adenomyosis, it is difficult to distinguish between benign and malignant gallbladder wall thickening by conventional techniques of diagnostic imaging such as computed tomography (CT), magnetic resonance imaging (MRI), and abdominal ultrasonography (US). In the present study, we attempted to distinguish between benign and malignant gallbladder wall thickening by means of fluorine-18-fluorodeoxyglucose (FDG)- Positron emission tomography (PET). **Methods:** FDG-PET was performed in 12 patients with gallbladder wall thickening detected by CT or US, to determine whether it was benign or malignant. Emission scans were taken, beginning 45 minutes after intravenous administration of FDG, and SUV was calculated as an indicator of glucose metabolism. **Results:** Of the 12 patients, 4 showed positive uptake of FDG in the gallbladder wall. Of these 4 patients, 3 had gallbladder cancer. The remaining one, who had chronic cholecystitis, had false-positive findings. The other 8 patients had negative uptake of FDG in the gallbladder wall. Two of these 8 underwent surgical resection, which yielded a diagnosis of chronic cholecystitis. The other 6 patients exhibited no sign of gallbladder malignancy and have been followed without active treatment. **Conclusions:** FDG-PET appears able to distinguish between benign and malignant gallbladder wall thickening.

Key words: gallbladder cancer, wall thickening, FDG-PET