
Efficacy of single photon emission computed tomography (SPECT) in detection of liver masses was evaluated. The materials included 87 cases with liver masses (49 hepatoma, 2 cholangiocarcinoma and 36 metastasis) and 80 cases without liver masses (23 cirrhosis, 6 obstructive jaundice and 51 normal). Each patient received 3-5 mCi of Tc-99m-phytate. Conventional liver images of 4 views and SPECT images of coronal and transverse sections using Shimadzu LFOV-E were obtained. Scintigraphic findings were classified retrospectively into 4 grades (2+) to (2-), initially by conventional images, then by both conventional and SPECT images. Detection of liver masses was slightly improved by adding SPECT. Especially, SPECT was useful in detection of relatively small masses of the right lobe.


We have evaluated the clinical utility of a single-photon emission computed tomography (ECT) for the detection of space occupying lesion (SOL). ECT was performed on GE Maxi Camera 400T following conventional liver scans with 3-5 mci of Tc-99m phytate in 77 patients. Of the 77 patients, 36 had SOL confirmed by angiography, surgery or autopsy. The sensitivity and specificity of ECT were compared with those of conventional liver scans, ultrasonic scans and X-ray CT on 35 patients by using the receiver operating characteristic (ROC) analysis technique. ECT had a 97% greater sensitivity and slightly improved specificity than conventional liver scans. The combination of ECT with conventional imaging was superior to ultrasonography and accuracy comparable to that of X-ray CT. In patients studied there was a case with isodensitic SOL that was demonstrated by ECT but was falsely negative on X-ray CT. We conclude that ECT images add more accurate information to conventional liver scanning. The combination radionuclide studies of ECT with conventional scans improve the diagnostic accuracy and are useful as a clinical screening test in the diagnosis of SOL.