is the observed digital image, $[H(u, v)]$ is the Hadamard matrix of order 64. Here, a weighting operation to $[G'(u, v)]$, is performed, and its result is transformed by means of the inverse Hamadard transformation. As a result, the high frequency compornents are moderately *b* intensified and can be enhanced the information in RI image.

It was confirmed that this image procedure was useful by applying to RI image of the liver phamtome containing plastic cold bolle or liver image of 11 patients with hepatoma. With this method, calculation time was shorten in comparison with conventional methods for image processing. Diagnosis of the primary liver tumors were improved by this method and serial determination of AFP.

Comparative Study Between a Conventional Gamma Camera and PHO/CON on Liver Scintigraphy

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Materials and methods

Liver scintigraphies were performed on 250 patients by a gamma camera and PHO/CON. A comparative study was performed on 50 patients of them, who had suspicious impressions of space occupying lesion (SOL) in the liver.

20 or 30 minuts after injection of 2 or 3 mCi of ^{99m}Tc-phytate, anterior, posterior and right lateral views were taken by a HP type gamma camera (Searle Radiographics Inc.) with a parallel colimator. Soon after, anterior and postrior views on supine position and lateral views on left decubitas position were taken by multiplane tomographic scanner (PHO/CON, Searle Radiographics Inc.).

Result

Two cases had no impression of SOL by gamma camera, but was discriminated single SOL by PHO/CON. In 4 cases, PHO/CON detected multiple SOL although the gamma camera discriminated single SOL. In 8 cases, single SOL was suspicious by the gamma camera, and by PHO/CON, single SOL was clearly seen. In 25 cases, multiple SOL were seen by the gamma camera, and the number and shape of SOL were more clearly seen by PHO/CON than by the gamma camera.

Discussion

PHO/CON is more excellent than a gamma camera for detectability of SOL in liver scintigraphy.

Functional Imaging of Liver by ^{13}N-Ammonia

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Ammonia has been known to be an inducing agent of hepatic coma associated with liver cirrhosis.

In order to establish a non-invasive method of investigating the portal circulation and the metablism of ammonia at liver the following