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ASSESSMENT OF USEFULNESS OF EMERGENCY NUCLEAR MEDICINE - A REPORT OF NUCLEAR MEDICINE PROCEDURES PERFORMED IN EMERGENCY CENTER -. Y.Sasaki,J.Yamazaki,M.Noguchi, K.Morishita,K.Uchida,S.Watanabe,G.Kamijima, H.Baba and Y.Maruyama.Toho University,Tokyo.

A small nuclear medicine (NM) examination room (4.3x3.3m) has recently been set up in the emergency medical center in our hospital. All the legal requirements including lead shielded walls, a sink connected to preserving tanks and air conditioning are met for the use of restricted radioisotopes. This is a satellite station where no RI remains when the room is not used. A radiopharmaceutical is prepared in the main NM center, which is transferred with a specially designed shielded wagon. The contaminated waists are sent back with the wagon.

In the past 6 months 69 emergency NM procedures were performed in this room, which included 40 Tl myocardial images, 29 MUGA, 5 lung perfusion scintigrams, etc.. Some representative cases were presented to demonstrate the clinical usefulness of emergency NM examinations.

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THE VALUE OF HEPATOBILIARY SCINTIGRAPHY IN ACUTE ABDOMEN. K.Uchiyama,T.Takada, H.Yasuda,H.Hasegawa,J.Shikata,Y.Kuniyasu, H.Kakei,Y.Niio,M.Kawakubo and K.Nakaogi. Teikyo University School of Medicine, Tokyo.

Although diagnostic capability with nuclear aids in hepatobiliary system has been advanced, it is difficult to differentiate acute cholecystitis and impacted gallstone. We have experienced 17 acute cholecystitis and 19 impacted gallstones at the neck which were carried out hepatobiliary scintigraphy with Tc-99m-PNT from March 1982 to June 1984. In acute cholecystitis, the image of gallbladder was not visualized due to the suppression of its function and found the decrease of the intestinal transition of bile from duodenum to jejunum. This intestinal additional finding was not recognized in impacted gallstones. When the inflammation was regressed, the transition of bile to the jejunum was appeared to be normal. In acute pancreatitis, the depression of intestinal transition of bile was seen too. So, this intestinal finding could be useful to diagnose acute cholecystitis and acute pancreatitis.

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THE ROLE OF EMERGENCY SCINTIGRAPHY IN ACUTE LOWER GI BLEEDING. M.Saeki,Y.Imanishi,M.Onoue,Y.Nakajima, Y.Yoneyama,Y.Iwasaki,M.Fujikawa and T.Ishikawa.St. Marianna University School of Medicine,Kawasaki.

Fourteen cases of lower GI bleeding demonstrated by radionuclide scintigraphy with Tc-99m-HSA,Tc-99m-RBC or Tc-99m-Sn-Colloid were reported. Of 25 patients with acute lower GI bleeding, 14 had positive scintigrams. In our series, all bleedings but one were demonstrated within one hour. It can be concluded that the examination can be ceased in one hour. Bleeding sites were accurately diagnosed except rectal lesions, which were mistaken as sigmoidal lesions. Emergency RI study is useful in demonstration of lower GI bleeding and determination of the choice of following examination.

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QUANTITATIVE ANALYSIS BY DIGITAL COMPUTER OF Tc-99m PMT HEPATOGRAM IN DIFFUSE PARENCHYMAL LIVER DISEASE. K.Nabeshima,I.Narabayashi,N.Ishido, K.Sugimura, S.Nishiyama,S.Kimura and A.Kajita. Kobe University School of Medicine and The Center for Adult Diseases, Kobe and Osaka.

Tc-99m PMT hepatograms were analysed to provide information about the liver and bile duct. Calculations were based on a 4 compartmental model and included corrections for blood, tissue, liver and bile backgrounds. The time activity curves for Tc-99m PMT in the cardiac region were described as the sum of 2 exponential functions, while curves for the hepatic region were described as the sum of 3 exponential components. The measured hepatograms were compared with simulated hepatograms and good agreement between the two curves showed that the compartmental model adequately described the blood and bile activities in vivo. In the cases of diffuse parenchymal liver disease, there were lower rate constants for the excretion from the liver to the bile ducts than normals and (distribution volume ratio) X (hepatic volume/area of the body surface) also larger than normal. Experience in human studies proves this method to be accurate in determining the rate constants for hepatobiliary transport of Tc-99m PMT.