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AN EVALUATION OF THE MALIGNANT LYMPHONODES WITH CONTRAST LYMPHOANGIOGRAPHY, DIRECT-RI AND CONVENTIONAL-RI LYMPHOGRAPHY. C.Tobari, H.Kurosawa (Toho University, School of Medicine, Tokyo.), H.Yamada, Y.Shimohara, T.Muraki, H.Murata, K.Chiba, M.Tanno and H.Tabuchi (Tokyo Met.Ger. Hosp., Tokyo.)

The comparative studies for the malignant lymphonodes with three procedures, the contrast lymphoangiography (C-L), the direct-RI (d-RI-L) and conventional-RI lymphography (c-RI-L) using Tc-99m labeled rhenium sulfur colloid (Tc-99m Re) were performed. The d-RI-L was directly injected Tc-99m Re into the lymphatic canal for the c-L readily prepared by surgical method. The c-RI-L was injected into the subcutaneous space between the first and second finger space of the foot. Usefulness of Tc-99m by the d-RI-L was evaluated in clinical as follows; 1) excellent image for the congestion or collateral pass-way, 2) higher accumulation to the lymphonodes. lies over the para-aortic region, 3) no changed image at 24 hrs after the injection, 4) highly liver image but no bladder or kidney image, 5) the incidence of the radio-active nodes with malignancy and no or low radio-active nodes with normal evaluated by the c-L, more clearly in the d-RI-L than the c-RI-L in which results corresponded to Seaman (1955) or Terui (1981). It may be because the injected pressure or lymphatic character containing the mixture of normal and malignancy in histological finding. Difficulty to determine of normal or malignant lymphonodes by the c-RI-L still remains.

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USEFULNESS OF TAKING ULTRASONOGRAPHY AS A COMPLEMENTARY METHOD OF SPLENIC FUNCTION. N.Hayashi, K.Yamamoto, K.Nakajima, R.Kinoshita, M.Miki, D.Hamanaka, R.Morita, Y.Ishii, K.Torizuka. Kyoto University Faculty of Medicine. Kyoto.

We took real-time ultrasonogram of the patients who came to take their splenic scintigrams. While scintigram could roughly evaluate splenic function, ultrasonogram could not provide any information about the function. On the contrary, ultrasonogram provided the information of the surrounding structures such as engorgement of splenic vein, compression to the kidney. While scintigram reflected the whole image of the spleen, ultrasonogram could not provide the whole image due to the pulmonary gas echoes. The splenic size index calculated from the ultrasonogram, however, was well correlated with the splenic size estimated from the splenic scintigram. Ultrasonogram could detect smaller SOLs than scintigram. While scintigram could detect only the existence of the SOLs, ultrasonogram could make their differential diagnosis. To take real-time ultrasonogram is quite easy and requires only a short time. To take ultrasonograms during the examination of the splenic scintigram seems to be valuable technique for the evaluation of the splenic disorders.

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SIMULTANEOUS KINETICS STUDY OF Tc-99m-HEAT-DAMAGED RBC AND Cr-51-NEM-TREATED RBC TO INVESTIGATE SPLENIC FUNCTION. Y.Takahashi, K.Akasaka, A.Ishihara and C.Uyama. Hematology, Tenri Hospital, Nara.

A mixture of Tc-99m labeled heat-damaged RBC (H-R) and Cr-51 labeled NEM-treated RBC (N-R) was administered intravenously to splenomegalic patients to investigate splenic hemodynamics and extraction function in detail. Splenic blood flow rate per circulating blood volume,  $\lambda_f$ , was assessed by initial slope of H-R blood disappearance curve.

N-R blood disappearance curve was analysed bi-exponentially and the partition ratio to the slow pool,  $\lambda_{N0}/\lambda_f$ , and extraction ratio, ER, of N-R in the spleen was calculated by applying a three compartmental model of N-R distribution between the spleen and blood.

In congestive splenomegalies c portal hypertension, the ER correlated to  $\lambda_{N0}/\lambda_f$  considerably and splenic extraction of N-R's was dependent on their hemodynamics there.

In hemolytic anemias, including mainly HS and AIHA, this correlation was poor with the ER being rather affected by the ordinary task of natural cell destruction than by the denatured cells' hemodynamics in the spleen.

In myeloproliferative disorders, the ER varied reflecting various disease states generally with its low value in relapse stage.

Double tracing method with Tc-99m-H-R and Cr-51-N-R and their kinetics analysis brought about further informations concerning pathophysiology of various splenic disorders.

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STUDY ON BODY DISTRIBUTION OF Tc-99m COLLOIDS IN ENDOTOXIN TREATED RATS. M.Ohguchi, K.Miyagishi, T.Aburano, N.Tonami and K.Hisada. Department of Nuclear Medicine, School of Medicine, Kanazawa University. Kanazawa.

Body distribution of Tc-99m colloids in endotoxin treated rats was studied. Three hours after intraperitoneal injection of endotoxin, Tc-99m colloids were injected intravenously. Significant lung uptake was observed in Tc-99m colloids except Tc-99m Re colloid and Tc-99m phytate. And the most remarkable change of lung uptake was observed in Tc-99m Sn colloid. The highest kidney uptake was observed in Tc-99m Re colloid but this was not significantly different from control group. The most remarkable change of kidney uptake was also in Tc-99m Sn colloid. When heparin was injected intravenously at the same time of endotoxin injection, lung uptake of Tc-99m Sn colloid was significantly decreased. However, the heparin effect on kidney uptake of Tc-99m Sn colloid was more significant than lung uptake. The increased uptake in lung and kidney was thought to be probably related to intravascular fibrin deposits.