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DEVELOPMENT AND CLINICAL UTILITY OF RN-PLETHYSMOGRAPHY USING Tc-99m-RBC. Y.Mori, A.Sasaki,F.Tsujimoto,H.Sekine,K.Kobori, K.Kawakami and T.Shimada*. Jikei Uni Sch Med. Dep Rad, *3rd Int Med. Tokyo.

Radionuclide angiography is available as a routine examination for disturbance of peripheral circulation. This method, however, can not evaluate quantitatively the blood flow in the extremities. We tried to develope a Radionuclide plethysmography(RN-PL) for quantitative evaluation of peripheral circulation, after radionuclide angiography. The subjects; 40 patients with various vascular diseases(ASO, DM, TAO). Method; Following the Tc-99m-RBC reaches equilibrium in the vascular system, venous occulusion in the thigh. Count rate increase in the leg because the arterial blood flows into occuluted site. This increase of radioactivity was measured by scintilation and obtained time activity curve. From this curve arterial flow was calculated. Results; The blood flow in the calf were larger in the cases with well developping collateral circulation than in that of poor collaterals. RN-PL allow an important information about quantitative assessment of blood flow to the vascular configuration by RN-angiography.

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ON A DIAGNOSIS BY USE OF RI ANGIOGRAPHY TOGETHER WITH SPECT FOR THE BLOOD VESSEL DISEASES. K.Nagase,Y.Arakawa,M.Tanaka,H.Miyama,H.Uchimura and I.Ohmura. Juntendo University School of Medicine. 3-1-3 Hongo, Bunkyo-ku, Tokyo. 113 JAPAN.

RI diagnosis for the heart disease, in particular, for the ischemic heart diseases is making remarkable progress. Compared with that, there is little report of the diagnosis for the blood vessel system.

This report showed an advantage of the joint use of the RI angiography and SPECT for the blood vessel dise-ses.

We marked the red blood cells with Tc-99m so as to picture the blood vessel. The results of our study about the joint use showed that a coronal image clearly showed the condition of the blood stream in obseving the pulmonary artery, and the consition of the dessecting wall in the cases of the thrombosis of pulmonary artery and the dessecting aneurysm of the aorta, respectively. The situated relations between the aneurysm of the abdominal aorta and the renal artery were also well investigated.

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TC-99M VENOGRAM OF INFERIOR VENA CAVAL SYSTEM -INTERPRETATION OF COLLATERAL PATHWAYS IN VENOUS OBSTRUCTION. M.Mashimo,K. Suzuki,K.Nishimura and T.Miyamae. Saitama Medical School. Moroyama,Iruma,Saitama

Tc-99m venography was performed patients who were suspected clinically to have IVC obstruction or thromboembolic disease of pelvis.

Seventy(169 studies) of 180 cases(317 studies) were abnormal.

The sites of obstruction were classified as follows:(1)IVC,(2)common iliac vein,(3)common iliac vein to external iliac vein,(4) common iliac vein to femoral vein,(5)external iliac vein and (6)external iliac vein to femoral vein.

We made the schemes of collateral pathways for each site ofobstruction.

The schemes are usuful to identify the sites of obstruction in inferior vena caval system.

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RADIONUCLIDE IMAGING ON VENOUS DISTURBANCES. T.Oya, Y.Yamagishi, A.Okuyama, H.Tajima, N.Iri, S.Hosoi, K.Ebata. Nippon Medical School. Tokyo.

The clinical value of RI angiography with Tc-99m MAA or Tc-99m HSA on venous disturbances were discussed. The material consisted of 16 cases of superior vena caval syndrome, 1 of Budd-Chiari syndrome, 3 of lower extemity varices, 2 of persistent left superior vena cava and 2 of left inferior vena cava. On patient with obstructive condition, a comparative study of RI angiography and contrast venography was carried out in observing the localization, the length of obstruction and the collateral circulation. Especially in the SVC syndrome, in which a good correlation was estimated between the degree of azygos obstruction and clinical symptomes, RI angiography showed clearly the status of the collaterals. Moreover, the repeat performance of RI angiography could be done and was of clinical value for the evaluation of irradiation and chemo-surgical treatment in SVC syndrome caused by lung cancer. The RI angiography was also easily utilized in detecting the venous anomaly without any subjective complaints of the patients.