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LEG MUSCLE PERFUSION STUDY USING Tl-201 SINGLE PHOTON EMISSION COMPUTED TOMOGRAPHY (SPECT). M.Oshima,T.Yano,N.Nishikimi, S.Shionoya,H.Akanabe,T.Abe and S.Sakuma. Nagoya University School of Medicine, Nagoya.

The purpose of this study is to evaluate leg muscle perfusion with Tl-201 SPECT. Thirteen patients with peripheral arterial disease underwent this examination. A cuff was applied above the knee bilaterally and the cuff was inflated to 50mmHg above the brachial systolic pressure. During deflation of the cuff, 3mCi of Tl-201 was injected intravenously. SPECT image of the lower leg was obtained by rotating digital gamma camera(Toshiba, GCA-70A) with on-line minicomputer(Toshiba, GMS-55A).

Stress image and redistribution image were compared with clinical symptoms and arteriographic findings.

In conclusion: 1)Tl-201 SPECT perfusion image of lower leg was obtained. 2)SPECT image can be divided into anterior tibial muscle and posterior tibial muscle component. 3)SPECT perfusion distribution was correlated with arteriographic findings and clinical symptoms.

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THE DEVELOPMENT OF STRESS STUDY IN RN PLETHYSMOGRAPHY - THE METHOD OF LIFTED LEGS -. Y.Mashima, E.Moriya, M.Uchiyama, H.Hashimoto, Y.Mori, K.Kawakami.Department of Radiology of Jikei University of Medicine, Tokyo. T.Shimada, S.Ito. the 3rd internal medicine. M.Hosoba. Medical system division, Shimadzu Corporation, Kyoto.

We have developed the venous occlusive RN plethysmography due to the quantitative measurement of peripheral blood flow volume, and have been reporting this method. On this time, we measured the blood flow volume of lower limbs in the lifted position(40-45 degrees)-the stress method- after the measurement of blood flow volume of limbs in horizontal position-the rest method-, and compared these methods on the usefulness. On the stress method, the disturbance of blood flow has been pointed out clearly. On this reason, it is considered to be more compliant than the rest method, because of decreased blood volume of venous system and having the straight slope of increased blood flow volume for the long time after the obstraction of thigh. The status of disturbance on blood flow at lower limbs has been group into 5 classes on the comparative study between the stress and the rest. Moreover, the map of blood flow was maked, and the status of blood flow was grasped. And this map was very usefull to grasp the disturbance of blood flow at lower legs.

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CLINICAL EXPERIENCE OF Ga-67 DAS-DFO-FIBRINOGEN SCINTIGRAPHY FOR IMAGING THROMBI Y.Kawasaki,M.Maki,M.Hiroe,K.Kusakabe and A.Shigeta. Tokyo Women's Medical College,Tokyo. K.Takahashi, N.Ueda and M.Hazue. Nihon Medi.Phsics. Takarazuka

Based on our experience in this study of the detectability and demonstrability of experimental venous thrombi in SD rats with Ga-67 DAS-DFO-fibrinogen(Ga-67 fibrinogen), clinical trial was applied to 12 patients of which the presence of thrombi had proven by means of CT and/or other examinations. The labelling was performed by addition of Ga-67 chloride(2mCi/2ml) to the instant kit of fibrinogen-DAS-DFO(Nihon Medi. Phsics) to be placed for one hour in room temperature. The imaging was made 6,24, 48 and 72 hours after intravenous injection. Clinical diagnosis in these 12 patients included dissecting aneurysm in 8 lesions, post-Bentall's operation in 3 lesions, pulmonary emblism in 2 lesions and renal infarction in one lesion. Four patients had recieved anticoagulant therapy at the time of the examination. Positive scan was obtained in four area with thrombi and in three area with operative sites. These lesions with positive scan were considered to be actively forming thrombi with fibrinogen-fibrin deposition. No complication was experienced in this study.Therefore,Ga-67 fibrinogen scintigraphy will be useful method to evaluate the activity of organizing thrombi.(Ga-67 fibrinogen was offered from the part of the New Drug Development Committee under the Ministry of Health and Welfare of Japan.)

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THE DIFFERENCE OF EXPERIMENTAL ARTERIAL AND VENOUS THROMBOSIS MODELS IN SCINTILLATION IMAGES WITH Ga-67-FIBRINOGEN-DAS-DFO AND In-111 OXINE PLATELET. T.Suzuki, H.Satoh, T.Yamazaki, H.Furunishi, S.Aoki, K.Masuda, M.Hamazu, T.Yamazaki, K.Torizuka, K.Horiuchi and A.Yokoyama. Shiga Medical School and Kyoto University. Ohtsu and Kyoto.

The purpose of the study is to make clear the difference of the scinti-images between the arterial and venous thrombus in rabbits, with Ga-67-fibrinogen-DAS-DFO and In-111 oxine platelet.

Arterial thrombosis model was induced by perivascular application of a silver nitrate solution on surgically isolated femoral artery; venous thrombosis model was induced by perivascular application of a formalin on the femoral vein. Scinti-images of fresh thrombus showed the excessive accumulation of Ga-67-fibrinogen-DAS-DFO and In-111 oxine platelet both on arterial and venous thrombus. Ga-67-fibrinogen-DAS-DFO showed their significant accumulation both on 1-day-old arterial and venous thrombus, but there was no its accumulation neither on 2-day-old arterial nor venous thrombus.

Then, there was no difference of the accumulation of Ga-67-fibrinogen-DAS-DFO and In-oxine platelet on the fresh arterial and venous thrombus. The difference of Ga-67-fibrinogen-DAS-DFO accumulation on the fresh and old thrombus between the artery and vein, was not recognized.