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CLINICAL RI PERFUSION LYMPHANGIOGRAPHY. E.Sanuki, R.Kamata, K.Sato, H.Takashima and K.Yoshida. Department of Radiology, Nihon University School of Medicine. Tokyo.

Clinical RI perfusion lymphangiography was performed as a pilot study of conventional lymphangiography (LG) since Feb. 1980.

RI(Tc-99m-HSA, or-MDP etc.) was injected directly into lymphatic vessel, immediately prior to LG.

This examination was able to be performed in short time, and did not disturb LG. The image fairly seemed to emphasize the abnormalities of lymph flow as compared with one of LG.

We recognize the usefull findings of the examination, which was not observed by the conventional lymphangiography, on the patients suffered from edema of extremity, supra calvicular lymph node metastasis, or bone metastasis. We were not concerned with the side effects and additional discomfort.

By that means, it was available to make this examination as the screening study prior to LG.

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DYNAMIC STUDY OF LYMPH FLOW IN LOWER EXTREMITIES BY RADIOISOTOPE; COMPARISON OF Tc-99m HSA AND Tc-99m RENIUM COLLOID. A.Hirota, I.Arai, S.Watanabe, T.Sakai, T.Kushiya M.Hoshino, S.Yabuki and K.Seki. Sch. of Med., Toho Univ., Tokyo.

RI-lymphography using Tc-99m human serum albumin (HSA) was carried out for dynamic study of lymph flow in human leg, and compared with that using Tc-99m Renium Colloid (Renium).

Subjects were composed of 20 patients with various diseases. HSA or Renium was injected into subcutaneous tissue of pretibial region, time activity curve of which were measured on several parts of femur and inguinal region.

By using Renium, more clear images of lymphatic system were obtained than by using HSA, and Renium was confirmed to be more excellent than HSA for observing morphology of lymphatic system. For dynamic study, however, RI-lymphography using HSA was thought to reflect lymph flow appropriately in human lower extremities, as while high time activity curves were obtained in some normal cases by Renium unexpectedly. These results may suggest that injection of non-physiological substance (Renium) might stimulate lymph vessels excessively.

It was concluded that HSA is more desirable than Renium in dynamic study of lymph flow.

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DYNAMIC LYMPHOSCINTIGRAPHY WITH Tc-99m HSA IN PATIENTS WITH LYMPHEDEMA. E.Ohtake, K.Matsui, Y.Katsumata, Y.Kobayashi, K.Asakura, Y.Ono, T.Nozawa and M.Ujii. Yokohama City Univ. School of Medicine. Yokohama.

This study was undertaken to evaluate the clinical usefulness of dynamic lymphoscintigraphy with Tc-99m HSA in patients with lymphedema.

Dynamic lymphoscintigraphy was performed in 18 cases (5 without lymphedema, 13 with lymphedema) using an intradermal injection of Tc-99m HSA. Sequential images were obtained every 2 min for a period of 30 min by a gamma camera with a large field of view. At the same time, data were stored every 30 sec by computer and time-activity curves of lymph nodes were created. Thirteen patients with lymphedema were classified into 3 grades (slight, moderate and severe) according to the clinical findings.

The image of the axillary or inguinal lymph nodes was identified 2 - 4 min after injection in cases without lymphedema. The delayed appearance of radioactivity, the obstruction of the lymphatic system, the collateral pathways and the retrograde lymphatic flow were obtained for the abnormal findings. In 5 patients with slight lymphedema, these findings were less observed. In 7 patients with moderate lymphedema, these were observed on much higher percentage. In a patient with severe lymphedema, there was no visualization of the lymphatic system.

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LYMPHOSCINTIGRAPHY ON CHYLURIA. N.Katsuyama, K.Miura, H.Ohmine, Y.Hokama, Y.Ohta, M.Nakano, M.Nakayama, M.Nakatomi. Ryukyus University Scholl of Medicine. Okinawa.

Lymphoscintigraphy (LS) using Tc-99m-renium colloid or Tc-99m-HSA was performed on 27 patients of chyluria to evaluate abnormal lymph flow. Five cases of them were examined radio-contrast lymphography (RCL) and LS. All of the 5 cases showed bilateral renal reflux of contrast agents of RCL. On LS, 9 of the 10 kidneys were visualized. In 8 of the 10 kidneys, which demonstrated increased lymph flow in the region of renal stem on RCL, increased accumulation of activity was noticed in same regions.

In 23 of the 27 cases, activity was accumulated in the kidneys on LS. However, Tc-99m-RC and Tc-99m-HSA are excreted from the kidney in other patient without chyluria. So, this finding is not specific for chyluria. In 8 of the 27 cases (30%), increased accumulation of activity was noticed in the region of renal stem. This finding is specific for chyluria, although specificity is low.

LS using Tc-99m-RC is proper to estimate number and size of lymph nodes. LS using Tc-99m-HSA is proper to estimate abnormal lymph flow. LS is non-invasiv and easy, and can be examined many times over. This examination may be routinely performed on patients of chyluria. We need other radio-pharmaceuticals which is not secreted into kidneys.