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BONE MARROW SCINTIGRAPHY UTILIZING TC-99m RHENIUM COLLOID. M.Miki, T.Nakajima, H.Uchino and K.Torizuka. Kyoto University School of Medicine. Kyoto.

Bone marrow scintigraphy is a useful method for detecting bone marrow distribution and evaluating its functioning state in the case of hematologic disorders. We utilized Tc-99m Rhenium colloid for bone marrow scintigraphy. Ten to 15 mCi of Rhenium colloid was intravenously injected, 2 hours prior to taking scintigraphy. Normal bone marrow scintigraphy showed skull, proximal portion of humerus, sternum, vertebrae, pelvis and proximal portion of femurs. In the cases of aplastic anemia generalized reduction of functional marrow was visualized according to their severity and re-extension was visualized after appropriate therapy. In the cases of leukemia peripheral extension to extremities was visualized with/without central bone marrow reduction. In the cases of iron deficiency anemia relative extension to knee joints was visualized. In the case of spherocytic hemolytic anemia peripheral extension was visualized. Comparing with Tc-99m sulfur colloid Rhenium colloid scintigraphy showed higher back ground but almost same distribution except clear renal image, because of higher renal excretion. Tc-99m Rhenium colloid is a new useful bone marrow scintigraphy agent.

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CLINICAL EVALUATION OF BONE MARROW SCINTIGRAPHY WITH INDIUM-111 CHLORIDE IN HEMATOLOGICAL DISORDERS. K.Shimabukuro, H.Sakata, K.Shirono, M.Nakajo, H.Yoshimura, S.Shinohara. Department of Radiology, Kagoshima University School of Medicine. Kagoshima.

In-111 chloride bone marrow scintigraphy was performed on 39 patients with hematological disorders: 21 with aplastic anemia, 9 with chronic myeloproliferative disorders, 4 with hemolytic anemia, 4 with acute myelogenous leukemia and a patient with pure red cell aplasia.

In many cases of aplastic anemia and acute myelogenous leukemia, the scintigrams showed severe suppression of central bone marrow activity and marked increase of renal activity. In addition, focal high activity area "so called island-like distribution" were revealed on the images of some cases of aplastic anemia. On the other hand, slightly decreased activity of central bone marrow and peripheral expansion were showed in many cases of chronic myeloproliferative disorders and hemolytic anemia.

The radioactivity of central bone marrow correlated to UIBC and nucleated cell of Myelogram.

It was thought that In-111 chloride bone marrow scintigraphy was useful for clinical evaluation of various hematological disorders.

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AN AUTOPSY CASE OF LIVER CIRRHOSIS WITH EXTRAMEDULLARY HEMATOPOIESIS IN THE LUNG USEFULLY DIAGNOSED BY BONE MARROW SCINTIGRAPHY WITH In-111-Cl. N.Saijo, K.Maeda, M.Tanaka, K.Uranami, U.Ebina, U.Hamabayashi and Y.Mochizuki. Department of Internal Medicine and Radiology, Rumoi City General Hospital. Department of Pathology, Cancer Research Institute, Sapporo Medical College.

We presented a case of liver cirrhosis in which whole-body imaging at 48 hrs after intravenous injection of 2 mCi In-111-Cl the abnormal accumulation was observed in the lung and right femur. X-ray examination showed no abnormal sign in the lung and right femur. The patient died of the rupture of the esophageal varix due to liver cirrhosis. Postmortem examination revealed histologically erythropoietic cells in the lung. However, they were not observed in the liver and spleen even though the radioisotope was accumulated. Therefore, bone marrow scintigraphy with In-111-Cl support the usefulness for the diagnosis of extramedullary hematopoiesis in the lung. Bone marrow scintigraphy with In-111-Cl was done in the 5 cases of the liver cirrhosis. There were no abnormal accumulation in the lung of those cases.