Utilization of Whole Body Scintigram for the Assessment of Peripheral Vascular Disease

Masaki Tomonari*, Kinichi Domeki*, Kazuhiko Murakami*, Kinichi Furukawa*, Masatoshi Takahashi*, Hiroyasu Murayama** and Jujiro Okamoto**

*Department of Surgery, Tokyo Medical College Hospital
**Department of Radiology, Tokyo Medical College Hospital

We have utilized a whole-body scintigram to catch peripheral blood flow physiologically and to catch distribution of vascular beds quantitatively and also for preoperative diagnosis, judgment of postoperative result and prognosis.

The whole-body scintigram was taken in the 147 cases of peripheral vascular diseases by means of rapid in the venous injection using Pho/Gamma scinticamera. Dosage of isotope was 5mCi 99m TC-HSA. in an adult and the scintigram was obtained 10 minutes after the infection and the entire procedure required 20 minutes in all.

We manageent the scintigram through a densitometer selecting the radioactive count at the cross section just above the aortic bifercation as 200% and the blood distribution ratio was calculated percentage in each part and vascular beds were caught quantitatively.

By this technique in aneurysm and an arterio-venous fistula, the location of the lesion and its state were well analyzed. On the contrarily, in an obstructive disease of peripheral artery a lesion came out not so clearly on the scintigram comparing with a contrast dye angiogram, however, changes of blood flow in the extremity was caught quantitatively and it would be useful for postsympathectomy follow up. The scintigram obtained by this method is the arteriovenous compound scintigram and the distribution of the prpheral vessels comes out physiologically. The scintigram is inferior than contrast dye angiogram to diagnose a location of obstructive lesion, but it is possible to explain the vascular distribution quantitatively and it is parallel to clinical signs.

Thus, from the standpoint of surgical side, this method is very safe, easy and profitable method in the diagnosis and in the estimation of postoperative prognosis of vascular diseases.

Myocardial Scanning with T1Cl in Patients Undergoing Irradiation of a Portion of the Heart


Department of Radiology, School of Medicine Gunma University

The heart has generally been considered a relatively radioresistant organ. Our recent observation based on histo-pathological studies of heart tissue in experimental animals and patients subjected to autopsy who were received irradiation suggested, however, that the heart is more susceptible to irradiation than had been thought.

Myocardial scanning using $^{201}$TICI was then thought in order to evaluate the possibility of myocardial damage from irradiation. Patients who had undergone extensive irradiation to mediastinal or palmonary areas were subjected to this study. Myocardial scanning with $^{201}$TICI in 32 patients without heart disease were performed. Regional heart irradiation took place during radiation treatment in 16 patients of 32. In 6 patients so tested, the scans demonstrated diminished radioactivity corresponding to the position of the irradiation portals in each case. Case histories of the 6 patients were presented together with the scan findings. There were no clinical or ECG findings attributable to radiation damage of the myocardium despite its scan appearance. However, the casual relationship of the irradiation could not be established definitely.

Our data were insufficient, but the findings reported should be of interest to radiotherapists. The mechanism producing diminished distribution...