

Radioisotopic Dynamic Study of Assessment of Peripheral Obstructive Arterial Disease

M. OHSHIMA, T. SASAKI, A. MISHIMA

Department of Radiology, Nagoya University School of Medicine, Nagoya

S. SHIONOYA, H. MIYAZAKI, M. HIRAI, S. KAWAI

Department of Surgery, Nagoya University Branch Hospital, Nagoya

T. ABE

Department of Radiology, Aichi Cancer Centre Hospital, Nagoya

A tracer technique was performed for evaluation of peripheral vascular disease by injecting of an intravenous bolus of 10 mCi of ^{99m}Tc pertechnetate: Buerger's disease, 15 cases; Arteriosclerosis obliterans, 7 cases; Raynaud's phenomenon, 2 cases; Venous thrombosis, 3 cases; and Vascular neuropathy, 3 cases. In total, 67 legs were examined including pre-and postoperatively.

The time activity curve in bilateral calf muscles was obtained during reactive hyperemia. Although in normal subjects (Group A), the typical peak activity was seen, the slight peak or the absence of peak was recognized in obstructive arterial disease.

In obstructive arterial disease, the time activity curve in the Group B with occlusion of leg arteries

was different from that in the Group C with occlusion in the arteries proximal to the popliteal artery.

The first appearance of activity in the calf muscles was symbolized as t_a (seconds): Group A, 10.44 ± 3.02 ; Group B, 11.91 ± 2.50 and Group C, 13.41 ± 2.50 . The result was statistically significant, between Group A and Group C.

Perfusion index (P.I.) is defined as the ratio of the counts on the peak of the activity curve to the counts on the tail of the plateau (240 seconds): Group A, 1.62 ± 0.35 ; Group B, 1.17 ± 0.16 and Group C, 0.65 ± 0.16 .

The result was statistically significant, among Group A and Group B and Group C.

Diagnosis of Peripheral Arterial Disease by Means of a Whole Body Scintillation Camera

K. DOMEKI, M. TOMONARI, Y. FUJIWARA, S. ISHII, Y. HORIGUCHI, K. FURUKAWA,

M. TAKAHASHI, H. MURAYAMA, S. OKAMOTO

Dept. of Surgery and Radiology, Tokyo Medical College

In a case of obstructive disease of peripheral artery, it is rather hard to obtain a good imaging by a traditional radiography, especially in the more peripheral areas from the obstruction, the changes are evaluated only from the dilution curve.

We have utilized the whole body scintigraphy with ^{99m}Tc albumin—a non-diffusible substance—for judgement of peripheral vascular changes in 35 cases (from Jan. 1975 to Oct. 1975).

In this method, a scintigram is obtained by