the same incidence comparable with the reports in the western country. Hence, whenever indicative, combined RVN and lung scintigraphy for the detection of the thromboembol disease should be necessary also in Japan.

Clinical Use of Xe-133 Clearance Technique in Obliterative Arterial Disease of the Legs

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The clearance of Xe-133 from muscle following is local injection is a measure of blood flow at capillary level, and this technique has attained an everincreasing use in clinical studies. In this paper, some problems of clinical use of this technique for arterial obliterative disease of the leg were studied and the following findings were obtained.

1. The resting muscle blood flow was of little diagnostic or prognostic value. In order to demonstrate the presence of arterial lesions it was necessary to produce a period of hyperemia in the leg. 2. In Xe-133 non-ischemic work method, work load of the ankle should be kept constant. 3. There was a good correlation between clearance curves from the anterior tibial muscle and the degree of calf claudication in 54 limbs with arterial occlusion proximal to the popliteal bifurcation. 6. It was necessary to examine the clearance curves in the gastrocnemius and soleus muscles as well as in the anterior tibial muscle in some cases, especially in limbs with occlusion only in the tibial arteries. 7. With simple flexions of the ankle in the prone position, the reliable clearance curves from the gastrocnemius and soleus muscles could not be gained. When the subjects performed plantar and dorsal flexions 40 times per min lifting the weiht of 3.5 kg, good clearance curves from those sural muscles were recorded. 8. In diagnosis of foot claudication, Xe-133 clearance technique applied in the flexor hallucis brevis muscles was applied.

Measurement of Skin Blood Flow Using Local Clearance Method of Xenon-133

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A study was made to determine the skin blood flow in the various region using the local clearance method of Xinon-133. The skin blood flow at the deltoid was measured in 82 patients.

The skin blood flow was estimated from the clearance rate of the first component and the following results were obtained.

1) The first component of the clearnce curve was found to reflect the skin blood flow and the second component to reflect the blood flow of the subcutaneous tissue. These findings were supported by sequential images of ^{133}Xe clearnce.

2) A linear decreasing tendency was found to be statistically significant between the blood flow of the skin and subcutaneous tissue and age of the patient. A significant correlation was also found between the skin blood flow and blood flow of the subcutaneous tissue.

3) The rate of successful reconstruction with the deltopetroral flap was found to be low for patients with poor skin blood flow, with a clearance rate of less than 0.07.

4) The skin flood flow of the face was found to be higher in comparison with that of the deltoid.