54.3 and 72.4 ml/min./100 g) were significantly higher than those of the controls. These MBF increases were found to be mainly due to a high flow rate for Component 1. Furthermore, a series of scintiphotos following the $^{133}$Xe injection showed increased MBF in or around the gangrenous and ulcerative lesions at an early phase which corresponded to Component 1. These findings suggested a compensatory increase in MBF in or around the gangrenous and ulcerative lesions at a healing stage.

**Studies on Regional Blood Flow of Delayed Deltopectoral Flap**

*By Method of Local Clearance of Xenon-133*

Y. Tsuchida, S. Kamata and M. Uchida

Department of Oto-Rhino-Laryngology, Cancer Institute Hospital, Tokyo

S. Ogawa, K. Kaneta and A. Tsuya

Department of Radiology, Cancer Institute Hospital, Tokyo

The studies on the regional blood flow of delayed deltopectoral flaps using the radioactive inert gas Xenon-133 in 32 patients are reported.

**Method:**

Xenon-133 dissolved in saline was directly injected to the cutaneous tissue of the deltoid region. The clearance curve was recorded continuously by collimated scintillation detector for 30 minutes immediately after the injection.

**Results:**

The clearance curves replotted semilogarithmically consisted of two exponential components. The clearance rate of the first component showed skin blood flow in the region.

A close correlation between the clearance rate and the age of preoperative patients was found.

The regional blood flow of lining deltopectoral flap was observed higher than that of U-shaped undermining deltopectoral flap.

Reconstructive surgery should be carefully carried out in patients with low clearance rate.

**Determination of Muscle Blood Flow of Hemiplegic Patients**

*Due to Cerebral Vascular Disorders*

T. Majima, M. Ohashi, M. Oga, H. Ogishima

Department of Rehabilitation Medicine, Tokyo Metropolitan Geriatrics Hospital

M. Iio, M. Abe, H. Toyama

Department of Nuclear Medicine and Radiological Science

Using $^{133}$Xe-clearance method, muscle blood flow was measured to survey the state of the peripheral circulation of the upper extremities of hemiplegic patients at several stages of rehabilitation.