

Pho/Gamma HP whole body scintillation camera ten minutes after injection of RI intravenously. Also, quantitative evaluation has been carried out by management of densitometer on a scintiphoto.

By this method, the scintigram reveals imaging of the both arterial and venous systems, however,

it shows the changes of the blood volume in the peripheral vessels in physical conditions and it is possible to presume the obstruction point.

Thus, this new method is useful for diagnosis, evaluation of treatment or prognosis.

The Effect of Chemical Sympathectomy on Muscle Blood Flow in Thromboangitis Obliterance

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Fybe et al (1975) reported the effect of chemical sympathectomy by phenol-water followed by Raid's technic on A.S.O. did not improved intermittent claudication after one month period being compared with those performed sympathetic block by local anesthetics.

I have been performed chemical sympathectomy by 20 ml of 5% phenol-glycerine warmed to 45°C from L₁ to L₄, mainly L₂ and L₃, on 27 cases of T.A.O. for 52 times under televised X-ray. Among them 11 cases had it bilaterally and 7 of them had been already underwent surgical sympathectomy some years ago.

The effect of chemical sympathectomy was confirmed by raised skin temperature, disappearance of GSR as well as improvement of digital electroplethysmography.

Muscle blood flow of anterior tibialis, gastrocnemius and soleus had been measured twice each by ¹³³Xe clearance with honey comb filter in rest and after mild kinetic load followed by modified Lassen's technic. 100 μ C (20 μ l) of ¹³³Xe was injected into muscles 25 mm through skin.

As control, blood flow obtained from 10 healthy

candidates.

In order to know relation of muscular blood flow to total lower limb flow, simultaneous measurement of the latter performed by IMF-Impedance method.

RESULTS

- 1) Total blood flow of lower legs: The ratios of after kinetic load to rest were as followed; 1.47 (85 to 125 ml/cm/min.) in healthy control, 1.34 (20 to 27) in T.A.O. before chemical sympathectomy became 1.64 (25 to 41) after with significant increase ($p < 0.05$).
- 2) Muscle blood flow: The ratios of after load to rest was very small in m. soleus even in healthy candidates. In m. ant. tibialis, the ratios were 2.88 in healthy control, 1.73 in T.A.O. before and 1.57 after chemical sympathectomy, while in m. gastrocnemius they were 5.89, 2.14 and 3.13 alternatively and significant increase observed ($p < 0.05$).

From these, there is a trend to improve muscular blood flow by repeated chemical sympathectomy on T.A.O. because m. gastrocnemius, a white muscle by Walls (1964), revealed its blood reservation.