

widely than that of phase 2. $T_{1/2}$ of phase 2 by both ^{133}Xe and $^{99\text{m}}\text{TcO}_4$ reflected the clinical status, EMG findings and histological findings of muscle in patients with progressive muscular dystrophy. After hyperbolic treatment in cases with progressive muscular dystrophy, reduced $T_{1/2}$ of phase 2 and 3, which suggested the increase in muscle blood flow, was observed.

Both ^{133}Xe and $^{99\text{m}}\text{TcO}_4$ clearance were well correlated in a series of 26 simultaneous applications of the two isotopes by intramuscular injection.

It might be concluded that muscle clearance study with ^{133}Xe and $^{99\text{m}}\text{TcO}_4$ is useful for grasping the course of diseases and finding the effect of treatments.

Pericutaneous ^{198}Au Colloid Lymphography in Childhood

S. OKANO and H. FUJII

Department of Radiology, Kanagawa Children's Medical Center, Kanagawa

A. TSUYA

Department of Radiology, Cancer Institute Hospital

In childhood, the lymphography is a important method for the planning of radiotherapy and diagnosis of abdominal malignant tumors, as malignant lymphoma, testicular tumor etc. Generally, the lymphography is very difficult to perform in the age under 2 years old, and the RI-lymphography becomes increasingly important.

We have done RI-lymphography on 26 children and 7 adult cases with malignant tumors. No marked change was observed in normal pelvic and abdominal lymph node pattern, in size, number and relative activity between child and adult. Profile scanning seems to offer more diagnostic value to study the timely transition of ^{198}Au colloid through lymphatic chain. In the majority of children's cases definite activity appeared in the liver

within 4 hours, whereas only minimum activity was observed in the liver after 24 hours. Timely transit of ^{198}Au colloid was found faster in the child than adult.

The shape of the liver in childhood changed remarkably with growth. Three dimensional measurement of the liver were done to compare with the standard liver weight with growth, and thus it has become possible to calculate the liver weight from the liver scan. Liver uptake study with age, and the dynamic study of lymphatic channel in children should await future study. The use of short-lived RI is recommended, as the transition of ^{198}Au colloid through abdominal lymph channel in childhood is completed within 4 hours, faster than that of the adult.