

=0.83) in group B and 0.18~3.33 ($m=0.68$) in group C. These values are very low as compared with those reported as normal values of Caucasians. Only two cases of group C showed more than 20 $\mu\text{g}/\text{dl}$ increase of blood sugar level after lactose ingestion.

From these results it is concluded that ^{14}C -lactose absorption test correlate well with

clinical symptoms and that lactose activity in Japanese might be low in general in comparison with Caucasians. And it is assumed if we could get selected cases of milk intolerant with higher lactase level and also definite milk intolerant patients, the each group would be separated much more clearly by this method.

A Method for Analysis of Hyperuricemia Employing ^{14}C -Uric Acid

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Uric acid metabolism in gouty subjects were investigated by measuring radioactivity disappearance in plasma after injection of C^{14} -labelled uric acid as well as uric acid isolated from urine.

An aliquot of heparinized blood was obtained 3, 6, 9, 15, 21, 27 and 33 hours after intravenous injection of $2\mu\text{Ci}$ of C^{14} -uric acid. The radioactivity of plasma was determined in a liquid scintillation counter with the Bray-CAB-O-Sil scintillator. Radioactivities of uric acid, isolated and purified by the method of Geren et al. from the urine collected for 0-6, 6-12, 12-18, ... 30-36 hour respectively following the intravenous injection of C^{14} -uric acid, were also determined in the same way as the traditional method.

Urate poolsize, turnover rate and daily synthesis were calculated from the two methods.

The radioactivity disappearance curve in plasma plotted on semilogarithmic graph as function of time was found to be linear after rapid decrease of the radioactivity for a first 2-3 hour after the injection. Extrapolation of this line at zero time permitted to estimate the size of the miscible urate pool by multiplication of the dilution rate of C^{14} -uric acid and amount of uric acid injected. The slope of the

line indicated the turnover rate in the pool and multiplication of the slope by the value of the urate poolsize provides a numerical value for the total amount of urate synthesized each day.

In two nongouty subjects with hyperuricemia urate poolsize, turnover rate and daily synthesis were determined by the new method and the traditional one simultaneously. The values were in good agreement between the two methods.

When radioactivity distribution of the urine obtained in 27-39 hours after C^{14} -uric acid injection was determined, ninety one per cent of total radioactivity was recovered from the spot of uric acid on high voltage electrophotogram. This result indicates that contamination of C^{14} -products in plasma derived from uricolysis is negligible small during our study.

Average values for the urate poolsize, turnover rate and daily synthesis were approximately 900mg, 57% and 510mg, respectively, in 3 nongouty subjects. In 6 gouty subjects the size of the urate miscible pool was generally increased and turnover rate was decreased. In 3 cases of 6 gouty subjects the total amount of urate synthesized each day was greater than in normal.