Q. Institute and Control

R. Others

Monitoring of $^{131}$I in Exhalation, Sweat and Saliva of $^{131}$I Patient

and T. Watanabe****

*Radioisotope Center and Department of Radiology, Faculty of Medicine, Nagoya University
**Department of Radiology, Faculty of Medicine, Nagoya University
***Radiological Technician’s School Affiliated to Faculty of Medicine, Nagoya University
****Department of Radiology, Nagoya National Railway Hospital

The activity of Iodine-131 in exhalation, sweat and saliva of patients administered orally Na$^{131}$I 2 to 5-mCi for hyperthyroidism and 30 to 50-mCi for carcinoma were monitored and the ratio to administered activity were obtained.

Exhalation; patients were weared a mask with charcoal activated filter paper and $^{131}$I in exhalation was trapped with the mask during one hour using a vaccum pump of air flow 25-l per minute at any time. The activity of the filter paper was measured by NaI (Tl)-scintilation detector and 400 channel pulse height analyzer. The maximum activity in exhalation was 300-nCi to 3.5-nCi. The discharge rate per one hour was about $10^{-5}$ to $10^{-7}$ of the administered activity and the average rate was $3.2 \times 10^{-6}$.

Sweat; The sweat of patient was gathered during one hour by putting a pair of vinyl gloves on patient’s both palms gotten adehydrated and weighed filter paper. The discharge rates of $^{131}$I into sweat of total body estimated from the activity per gramm of sweat and insensible respiration were $10^{-1}$ to $10^{-3}$ of administered activity.

Saliva; The saliva was gathered at one-hour after administration, three-hours after and any adequate hours after from patient. The highest activity was obtained between one to three hours after administration and the activity of saliva per ml was 1.5% of administered activity. The average rate of $^{131}$I into saliva per ml was about $6.3 \times 10^{-3}$ of administered activity.

The Evaluation of Testosterone Potentiated P-32 Thrapy for Intractable Pain Secondary to Bone Metastases


*Department of Nuclear Medicine, Kanazawa University Hospital
**Department of Radiology and Nuclear Medicine, Kanazawa National Hospital

This therapy was effective for intractable pain secondary to multiple bone metastases, especially from prostate and breast. Dramatic pain relief was obtained in all cases of 7 prostatic cancer and 2 cases of breast cancer. At least in one case apparent recalcification was seen on radiograph. About 13% of injected radioactivity was excreted into urine for 28 days. There was no relationship between excretion ratio and degree of pain relief, original organs and extention of metastatic lesion. Bone marrow suppression had been considered as a prominent side effect in this therapy, but generally it was transient and not so critical. Some problems, such as optimal dosage, selection of cases, side effects and objective evaluations are to be resolved in further investigation.