Studies on localisation of uterine cervical cancer by using intracavitary areascanner

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Although the usefulness of ^{32}P for the detection of uterine cancer is suggested, inability of devicing an appropriate detector limited the practical use of ^{32}P. Thus a new intracapitary area scanner was deviced using β-ray semiconductor detector of side window. The detail of this instrument has been reported in the 11th annual meeting of Japanese Society of Nuclear Medicine. To test the effectiveness of this instrument, 5 to 8 μCi of ^{32}P was injected intravenously to 27 patients with uterine cancer, and scanning was performed 24 to 48 hours later. The speed of scanning was 25 mm/sec and scanner arm was rotated 10–20 degree. Conization of cervix uteri was made and histological study was further performed to show the specificity and sensitivity of ^{32}P scanning. It was found that about 85.7% of abnormal ^{32}P scanning did actually indicate the presence of uterine cancer. Furthermore, ^{32}P scanning indicated the presence of a small and localized cancer in that vaginal smear was positive but punch biopsy was negarive. It is suggested that ^{32}P scanning is practically useful in detecting an early stage of uterine cancer.

Scintigraphy of the Malignant Tumor with ^{131}I-Fibrinogen

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Scintigraphic studies have proven that in pleuritis carcinomatosa, after receiving intracavitary infusion of RISA, remarkable cancer affinity was sometimes shown. This is the background of the start of our investigation. Furthermore, for the purpose of the field collimation of radiation therapy positive delineation is more desirable than negative on the detectability of malignant tumor. ^{131}I-Fibrinogen has been found to have an affinity for some human neoplasms.

Patients with a variety of tumors were studied after receiving 1 mCi of ^{131}I-Fibrinogen intravenously. Scintigraphies were usually performed 10 to 30 hours after injection. In the head and neck region thyroid block was previously performed, in the pelvic region urine was evacuated before scintigraphy.

A positive delineation was found in 23 cases of 42 patients (54.8%). We observed striking tumor with the neoplasms of paranasal sinuses; in 8 of 9 patients with the pelvic malignancy; in all of 3 patients with the malignant tumor of soft tissue of extremities; in all of 2 patients with the carcinoma of oral cavity.

We could not only surely recognize a positive delineation in 3 out of ten malignant lymphnodes of head and neck region and axillary region; in 1 out of 3 malignancies of larynx and tonsils and in 1 out of 2 carcinomas of thyroid. We could not detect in all of 9 patients with the bronchial carcinoma.

Erysipelas of the face occured after the radiation treatment of carcinoma of maxillary sinus was not recognized as positive. Furthermore, reticulum cell sarcoma of maxillary sinus after radiation treatment was not delineated, but it was delineated as positive with tumor recurrence.

No untoward reaction of ^{131}I-Fibrinogen was