activity to abnormal collecting curve by computer analyse about region of interest in the intestine and to estimate of renal function disturbance.
Collecting curve of ileal conduit and ureterosigmoidostomy, which showed similarly.
This comparison has been difficult by X-P examination such as infravenous pyelography or usual radioisotope renogram.

Radioisotope renal Angiography with $^{99m}$Tc-DMSA: Computer

Analysis of Renal Vascular Phase

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$^{99m}$Tc-DMSA is a suitable substitute for organomercurial renal imaging agents. Static imaging and dynamic renal vascular flow studies with $^{99m}$Tc-DMSA, were performed to evaluate renal hypertension.

1. Methods.

After bolus injection of 10 mCi of $^{99m}$Tc-DMSA, early rapid-sequential images were stored on the computer system at interval of 1 second for 60 seconds. An early image was displayed on a color TV monitor and superimposed on the static image. Time-activity curves, corresponding to ROI (region of interest) over kidneys and aorta, were obtained and 4 parameters were calculated.

1) Peak to peak time indicating passing time, was calculated by time activity curve of each kidney and aorta.

2) Peak to peak ratio (affected kidney/normal kidney) was obtained.

3) Transit time indicating interval from maximum descending portion to maximum descending portion of first peak, was calculated by differential curve which was obtained by processing time-activity curve.

4) Transit time ratio (kidney/aorta) was calculated.

2. Results.

1) Diagnostic informations were increased by displaying superimposed images.

2) Transit time ratio and peak to peak ratio were increased in the patients with reno-vascular hypertensions.

3. Conclusion.

Our analytical methods of radioisotope renal angiography with $^{99m}$Tc-DMSA were found to be useful aid for differential diagnosis of the reno-vascular hypertension.

Pelvic RI-angiography by $^{99m}$Tc-Pertechnetate in Urology


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Pelvic RI angiography was performed in the cases of bladder tumor, prostatic carcinoma and benign prostatic hypertrophy to evaluate tumor gross and tumor state. After rapid injection of $^{99m}$Tc-pertechnetate, tumor image was tried to visualize with scinticamera, then analyzed with minicomputer. 35 of 50 cases with bladder tumor showed positive tumor image, which was related to the tumor gross, but not to the tumor stage. Prostatic image was demonstrated in 2 untreated cases of 5 with prostatic carcinoma and in 2 of 10 with benign porastatic hypertrophy. Useful results were also obtained from a few cases of testicular tumors, tuberculosis of the epididymis, mumps orchitis and scrotal hematoma.

Therefore, this simple method would be not
only helpful to the diagnosis of the bladder tumor, prostatic and intra-scrotal diseases, but also valuable to the evaluation of the tumor treatment.

Dynamic Studies of Placental Blood Flow (PBF)
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A method for the continuous recording of utero-placental blood volume has been described on 91 pregnant women by the use of $^{99m}$Tc-albumin.

Immediately after intravenous infusion of $^{99m}$Tc-albumin (1 mCi), the gamma-camera was connected with the 32K computer to demonstrate the ROI on the placental and femoral artery as curves.

The fetal radiation dose was as small as about 10 mrad, and may be considered virtually free of any embryologic risks.

The patterns of placental blood flow (PBF) on the placenta were studied.

These changes were observed most frequently in complicated prematurity, such as toxemia, intrauterine fetal death, placental insufficiency or diabetes mellitus.

The alterations in wave pattern which appeared attributable to spasm or ischemia of arterioles, was agreed with pathologic diagnoses of the placenta.

The relationship of the placental blood flow and clinical data, especially urinary estrogens or renal function, have been discussed.

Clinical Evaluation of Renoscintiphoto in Pediatrics
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Renoscinticameras were performed on 147 children, aged two to fifteen years, during this last 5 years in Kitasato University Hospital.

In pediatrics, among many cases of renoscintiphoto, they have contributed to the clinical diagnosis of the urinary tract.

Particularly in the newborn infants the renoscintiphotos have been considered to be more useful and safer than intravenous urograms and the other X-ray examinations.

In addition, we reviewed two instances of urinary tract disorders; infantile polycystic kidney and congenital hydronephrosis.

Tomoscintigraphy by PHO/CON, Computed Tomography and Echography of the Kidney: A Comparative Study
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Tomoscintigraphy by the PHO/CON TM Multi-Plane Imager System (PHO/CON), computed tomography (CT) and echography (ECHO) were compared with regard to detection of renal lesions.