Measurement of Glomerular Filtration Rate Using ^{99m}Tc-DTPA

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We measured the glomerular filtration rate using ^{99m}Tc-DTPA (^{99m}Tc-diethylenetriamine pentaacetic acid), and compared the value with that from the chemical measurement by the single intravenous injection of sodium thiosulfate. There, fairly good correlation between them could be observed. Furthermore, a rapid urinary excretion of radioactivity was found in the dynamic scintiphotographic study as well as from the transition of count rates in lung, kidney and bladder, which may be considered to contribute much to the reduction of radiation dose to the body.

From the above facts it may be concluded that ^{99m}Tc-DTPA is a chemically stable substance and is a very useful and effective diagnostic agent.

Placental Scintigraphy Using ^{99m}In-Chloride

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Radionuclide placentography is well established as diagnostic method for localization of the placenta, but it is not widely used in our country.

Since October 1973, we started RI placentography with ^{113m}In to minimize the fetal absorbed radiation dose.

^{113m}In-chloride (2–3 mCi) was rapidly injected after mixing with about 3 volumes of blood in the syringe. All patients were examined 5–10 min. after injection with γ-camera fitted with diverging collimator including the uterine fundus and the symphysis pubis. Anterior, lateral and in sometimes posterior views were obtained.

In all patients, placental blood pool, uterine wall, liver, spleen, aorta, iliac and femoral vessels were visualized. There were no evidence of density attributed to radioactivity in the kidney and urinary bladder.

We have examined 50 patients, 41 of whom had the location of the placenta confirmed at delivery. The terms of pregnancy were distributed from 5 to 10 months (average 7.8 months). We correctly diagnosed 7 of 8 placenta privia (87.5%), and 31 of 33 patients with normal implantation (93.9%). The overall accuracy for the series were 92.7%. The differential diagnosis of low-lying placenta from marginal or partial placenta previa were limited. This limitation is fairly overcome by plac-

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