Recently, we have had an opportunity to apply Neohydrin-197 on the kidney scanning and to compare it with Neohydrin-203 that has been used for some time.

First, the blood clearance and the urinary excretion on both materials were compared with each other, resulting in the same pattern on the graphs. However, the effective half lives in the kidneys obtained from the linear scanning revealed that the one from Neohydrin-197 was about two and a half days and the other around 26 days.

Second, a tiny amount of Neohydrin-197 was counted for about 35 days since 3 days after the assay date, plotting on the semi-logarithmic graph paper. This showed that decreasing rate of the count was the same as the decay rate of $^{197}$Hg until around the 20th day on which the influence of the background fluctuation on the counting appeared. This indicates that the amount of contamination due to $^{203}$Hg in Neohydrin-197 is very small. The equipment used was Shimazu Scintiscanner SCC-20. The dose of Neohydrin-197 used was 300 uc. per body and it was administered intravenously.

After the injection, uptake curves in the kidney were obtained for about 15 minutes. then, the patient were put on the scanning table, lying on the stomach position. Among the patients on whom the kidney scanning was performed there were 7 cases with hydro-nephrosis, giving a total number of 13.

In the cases with tumor and cyst, the scanning showed definite defect in the areas corresponding to the localization of the lesions. This gave the information valuable enough for the diagnosis. In the case with unilateral renal hypertensión, the scintiscanning revealed a small, contracted kidney showing poorly concentrated Neohydrin-197 gave good visualization of the functioning renal tissue which is clear enough, corresponding to other cases with Neohydrin-203.

We mentioned above results: Neohydrin-197 has less total body and kidney irradiation than Neohydrin-203 has. The capability of the kidney visualization of Neohydrin-197 on the scintiscanning is not better than that of Neohydrin-203. Therefore, we do believe that Neohydrin-197 is a very useful material for kidney scanning.

Analysis of RI-Renogram by an Analog Computer with Especial Consideration of Background

T. Nakagawa
Department of Urology, Kyoto University, Kyoto

A. Hirakawa
Third Department of Internal Medicine, Kyoto University, Kyoto

S. Iwai
Department of Electronics, Kyoto University, Kyoto

M. Kuwahara
Automation Research Laboratory, Kyoto University, Kyoto

An analog computer was devised to analyze RI-Renogram quantitatively. Background included in RI-Renogram was measured by using RISA. In our results the right sides all showed slightly higher RISA radioactivity than the left.