kind of external counting test. Hence, it is most important to standardize the equipments to be used as well as the procedure itself upon the fundamental experiments. From this aspect I have carried out several experiments, and the conclusion is as follows:

1) The lead shield must have the thickness which is enough to reduce the counts of peak gamma ray from the outside of the visual field to less than 1% of those from the visual field. Two centimeters in thickness is necessary for the side shielding.

2) The whole kidney must be covered completely by the visual field of the collimator, while the opposite kidney and bladder should be out of the incomplete visual field.

3) The influence of body background is reduced by counting the peak gamma ray of iodine-131. However, the influence on the counts caused by the change of distance between the skin and kidney is less in counting the gamma rays that include scattered region.

4) In sitting position, the right kidney sometimes shows a depressed secretory phase on the renogram, which is often improved to a normal level by choosing a prone position in an additional procedure.

5) From the view point of an accurate follow on the initial spike and the statistical error, the time constant of 2 seconds is most advantageous. However, even 10 seconds can be used if an accurate follow on the initial spike is unnecessary.

Application of Radioisotope Renogram in Pediatric Field

T. Okada

Department of Pediatrics, Niigata University School of Medicine, Niigata

Here we have reported radioisotope renograms 1) of normal children, 2) of children with postural proteinuria and 3) of children with orthostatic dysregulation.

1) Renogram of normal children

Recently, radioisotope renography is widely performed in children with various renal diseases. However, there are few reports about the renograms of normal children and infants, and it is difficult to appreciate these renograms. Consequently, we have attempted to establish the standard renogram tracings of children, particularly under the age of 3 years.

Renography was performed in 22 normal children under 3 years in prone position. ^{131}I "hippuran" was injected intravenously in a dosage of 0.4 μCi/kg. Renograms were analyzed according to the classification of Johnston.

Renograms from 6 children under the age of one year revealed flat or rising tracings, and subnormal tracings were obtained from only one children of this age. Tracings from children aged one to 2 years were almost subnormal and those of children over the age of 2 years were normal. Thus, it seems that normal tracings of renogram are obtained from children aged one or 2 years, and renogram of children over 2 years reveals always normal curves. In infants under the age of one year, the normal tracing is of flat or rising type, so the appreciation of these renograms must be done carefully.

2) Renogram of children with postural proteinuria

Renography was performed in 28 children with postural proteinuria in standing position at lordosis loading. Forty-six per cent of renograms obtained were abnormal on the left with markedly delayed excretion phase. This fact supports the view, which is most widely accepted in the world, that the renal congestion is a cause of postural proteinuria. Renography performed at lordosis loading seems to be one of the diagnostic aids to postural proteinuria.

3) Renogram of children with orthostatic dysregulation

Renography was performed in 25 children with orthostatic dysregulation in standing position. Renograms obtained revealed abnormal tracings bilaterally with delayed excretion phase, and the abnormalities varied to the degree of the severity of this disturbance. In most severe cases, renogram tracings revealed rising slopes on the both sides, and then descending slopes appeared as the children recovered from the shock condition. Thus, renography seems to be a valuable test to know the state of occurrence and recovery of orthostatic dysregulation.

Clinical Evaluation of Renograms in Urology

A. ISHIBASHI

Department of Urology, The Jikei University School of Medicine, Tokyo

Unilateral renal disease is a frequently encountered disease in urology.

Therefore the split renal function test, especially renography, has become one of the most important and rewarding test in recent years.

Clinical efficiency of the renography was evaluated on various G U diseases, hydronephrosis and non-visualizing kidneys, in particular concering diagnosis and prognosis.

The non-visualized kidney refered here was defined as the kidney which revealed no excretory pyelograms by routine IVP.

In assessing the renograms, obtained patterns were classified into six types, namely normal N-type, non-functioning L-type and four intermediate-type, M_1, Ml, M_2 and Mm.

Of the non-visualizing kidneys, the L-type renogram indicated poor prognosis in general, while the Ml-type resulted in poor prognosis also in approximately 50% of the cases. All the remaining patterns and up with good prognosis.

It was of interest that some of the L-type patients (non-functioning in renography) showed positive renoscintigrams at times. This fact was presumably due to difficult positioning of the detector.

By following the repeated renograms in sequence, prognosis of the hydronephrotic patients could be better known at earlier stage. This was believed to be a better way to tell each patient's out-come than series of IVP.

In summary, it was shown that the renograms could be useful adjuncts in functional recovery of the urological diseases, particulerly of hydronephrosis and non-visualizing kidneys.

The Renogram Test in Gynaecology

S. IWAI and H. MIYASAKA

The Department of Gynaecology & Obstetrics, The Faculty of Medicine, Shinshu University, Matsumoto

We have had a survey concerning the renogram utilization in gynaecologic field by direct mail questioning for 49 hospitals of medical school. From the survey it was found that the renogram being applied in most hospitals as a laboratory test of the cervical carcinoma of the uterus, and in several hospitals it being applied for the diagnosis of the toxemia of pregnancy. The routine testing of renogram was done only in 10 hospitals. The opinions