A Study on the Chance of Seg B of the Renogram in Sitting Position

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When the renogram is taken on a thin patient in sitting position, Seg B of the right kidney sometimes appears depressed, which turns to normal height in prone position in another trial. In such a thin patient the right kidney is ptotic on the scintiphoto in sitting position but it is placed up to the height of the left kidney in prone position.

To investigate such phenomena on Seg B, first we injected ^{99m}Tc-Pertechnetate of 5 to 10 mCi intravenously in sitting position, secondary 5 mCi of ^{113m}In-DTPA in prone position to 9 patients, who showed depressed Seg B on the right renogram in sitting position. Prior to these tests ,a tracer dose of chlormerodrin-203 was used to determine the kidney areas on the map obtained from the 1600 channel analyzer attached to the scintillation camera.

The right to left perfusion ratio (right/left) was calculated from the counts within the kidney areas for 45 seconds after the injection. In 6 out of 9 patients the ratio increased significantly but almost no change in the remaining 3.

All 9 patients were then subjected to serial tests with 500 to 600 uCi of ^{131}I-Hippuran in both positions. The counts within the kidney areas for 1 minute with 1 minute intervals were plotted. The 6 patients mentioned above showed that Seg B was depressed in sitting position but returned to normal height in prone position. However, the remaining 3 showed normal Seg B even in the sitting position which indicates that the original renogram with depressed Seg B was caused by the incorrect positioning of the detector. In 6 patients, however, it can be possible that the increased blood flow to the right kidney in prone position could be responsible for the improvement of Seg B.

Evaluation of Renogranes of Pediatric Subjects by the Use of a Newly Developed Renography Equipment

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Following the introduction of radioisotope renography by Toplin in 1956, ^{131}I-labeled sodium iodobippurate was utilized in renography by Tubis in 1960, and this diagnostic procedure was finally established as means to determine the symmetry or a lack of symmetry of renal function.

Wenzl (1965) and Johnston (1967), who applied radioisotope renography in pediatric field, concluded that different renogram pattern resulted from that of adult subjects, ascertaining that this was mainly due to a difference in physiological and anatomical characteristics between adult and pediatric subjects.

By the use of a newly developed renography equipment, we acquired a striking evidence that there is hardly any difference in patterns of renograms between them according to the analysis based on each parameter.

Considering the anatomical fact that the kidney size of a one-month old infant is 5.17 cm. (left), 5.11 cm. (right) in length, 3.09 cm. (left), 2.78 cm. (right) in width, and