Hypoactive Area Detected During Tc-99m DTPA Renal Scintigraphy: An Unusual Appearance

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Citation

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Abstract

Tc 99m DTPA renal scintigraphy was applied for the evaluation of renal function of a 45 years old man who had been diagnosed to have end stage renal failure and was treated with continuous ambulatory peritoneal dialysis. Renal scintigraphy revealed findings of chronic renal failure. Furthermore, absence of radiotracer uptake area was observed on the lateral side of the spleen. No pathological invention was determined on this area but liquid collection was observed in both abdominal ultrasonographic examinations. This appearance seemed to belong to collection of dialysate fluid given during peritoneal dialysis.

Figure 1

Figure 1: Renal perfusion was delayed and decreased in renographic flow images (10 mCi Tc99m-DTPA Â– 128x128 matrixes, 1 sec/frame, total 60 frames) at both kidneys. In addition, suspicious decreased uptake appearance was observed on the lateral side of spleen in delayed perfusion images.

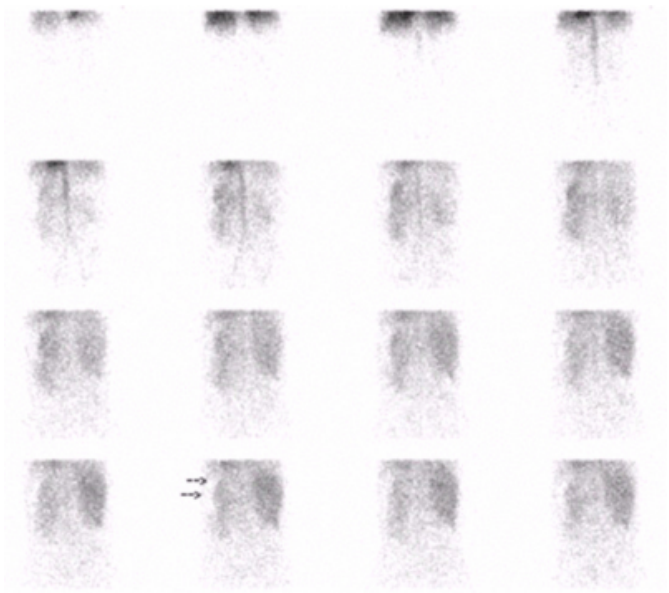

Figure 2

Figure 2: Severe function loss was observed in both kidneys and background activity was found to be high in renal function images (128x128 matrix, 1dak/frame, total 24 frame). Decreased uptake area was observed on the lateral side of the spleen. In addition, increased perfusion area was observed at inferolateral neighborhood of left kidney, compared to other areas of abdomen.

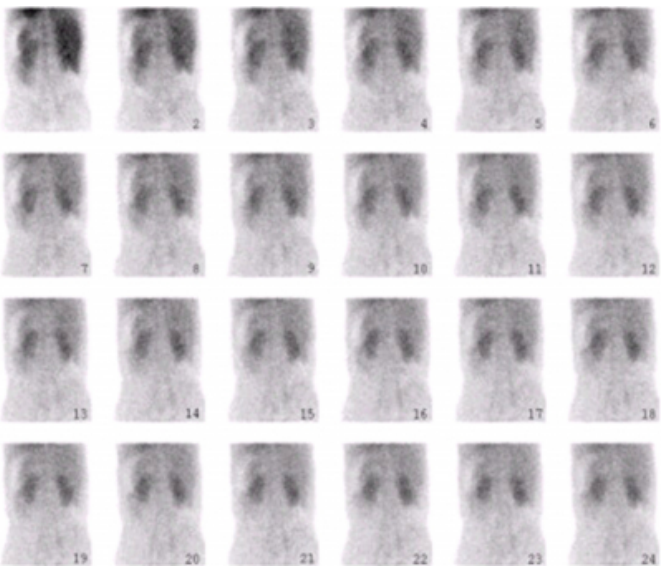

Figure 3

Figure 3: Region of interests and curves of Tc 99m DTPA renal scintigraphy were shown in the figure. GFR was calculated to be 5ml/min in the left kidney and 7ml/ min in the right kidney. The diagnosis of bilateral renal failure was supported when function images and renogram were evaluated together. In the laboratory examination of the samples from the patient, creatinine clearance and urea clearance were found to be 9 ml/min and 6 ml/min respectively. The mean GFR was calculated as 7,5 ml/min.

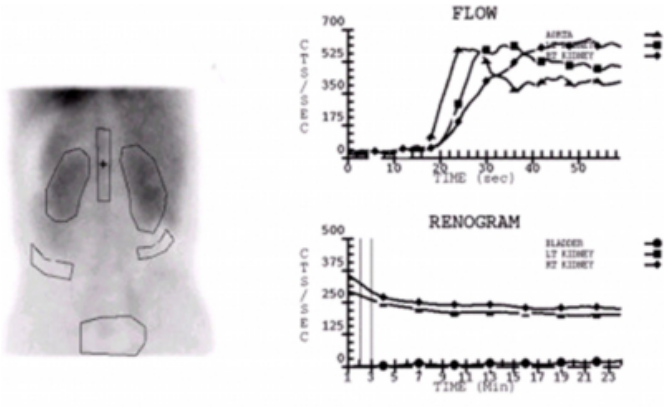

Figure 4

Figure 4: The illustration of initial 10 images was composed. By this way, decreased uptake area on the lateral side of spleen became more distinct. Furthermore, by this way, hypervascular area observed on inferior neighborhood of left kidney became more distinguishable.

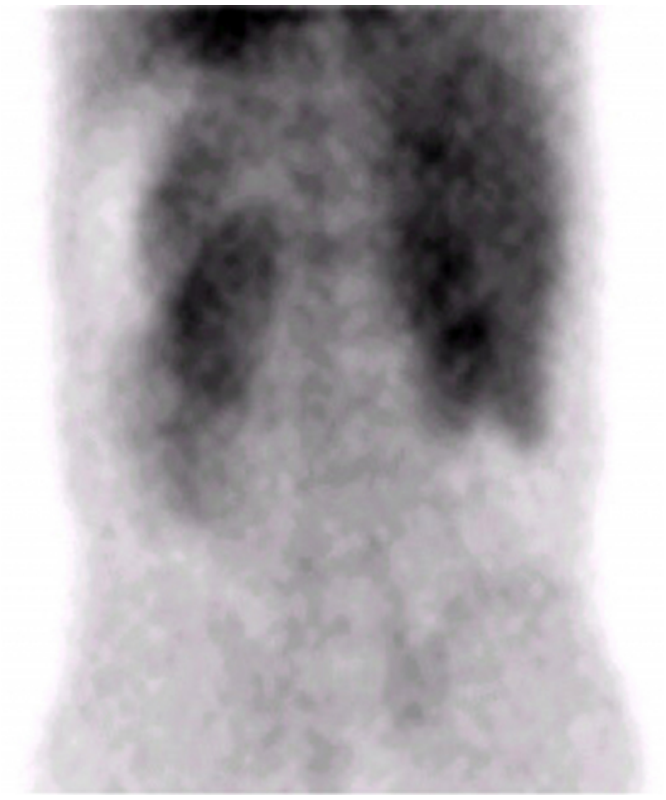

Figure 5

Figure 5: The illustration of abdominal ultrasonography. In abdominal ultrasonographic examination; parenchymal echo was found to be grade 3 increased and grade 1-2 pelvic ecstasies were observed in both kidneys. Anechoic free liquid appearance was shown on the perisplenic area. Bowel loops and omentum were shifted to the midline because of prevalent free anechoic liquid in abdomen. No pathological invention was determined in hypervascular area on renal scintigraphy. Variable pathological decreased uptake aspects may be seen on renal scintigraphy as abscess, cyst, lymphocele and tumor etc (1,2,3). Therefore, abdominal ultrasonography must be performed to patient for differential diagnosis. For this reason, this appearance was thought to be depending on the shift of bowel loops and omentum. Abnormal DTPA uptake, a decrease or an increase, may be observed during the renal scintigraphy in many diseases. There are many factors to be considered on differential diagnosis. If there is a decreased uptake, causes of perisplenic fluid collection such as peritoneal dialysis, cirrhosis, hepatic tumors, etc must be kept in mind. In addition, it should be known that hypervascular appearance in the scintigraphic evaluation of the abdomen might due to shift of bowel loops and omentum to the midline due free collection.

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