

DEMONSTRATION OF A RENOPERITONEAL FISTULA BY RADIONUCLIDE RENAL SCANNING: A CASE REPORT

Pages with reference to book, From 118 To 120

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Abstract

Radionuclide renal studies are minimally invasive, easy to perform and give information about both renal structure and function. These studies may be safely used to detect urinary extravasations from the upper urinary tract.

A case of renoperitoneal fistula imaged by nuclear medicine technique is described. (JPMA36: 118, 1986).

The diagnosis of urinary extravasation using nuclear medicine procedures after trauma and renal transplants is well documented¹⁻⁴ but radionuclide scanning for urinary extravasation in conditions other than these has rarely been reported^{5,6} Surgically related extravasations are common but they are usually small and retroperitoneal. We describe here an iatrogenic renoperitoneal fistula which presented with tense ascites.

Case Report

A 30 years old female was admitted to a surgical unit of Nishtar Hospital with rapidly accumulating ascites. She gave history of renal pain. She had undergone pyelolithotomy for this at a district headquarter hospital about two weeks prior to her admission in Nishtar Hospital. Abdominal distension was noted on the third post-operative day which had rapidly progressed.

On examination, she was weak, emaciated, had a rapid low volume pulse and slow laboured respiration. There was no jaundice. She had tense ascites and a recently healed Morrison's incision on the left side. The liver and spleen were palpable.

On investigations, the blood picture was normal. Liver scan was done which showed a medially and caudally displaced liver and spleen with a normal radiocolloid distribution in the liver (Figure I).

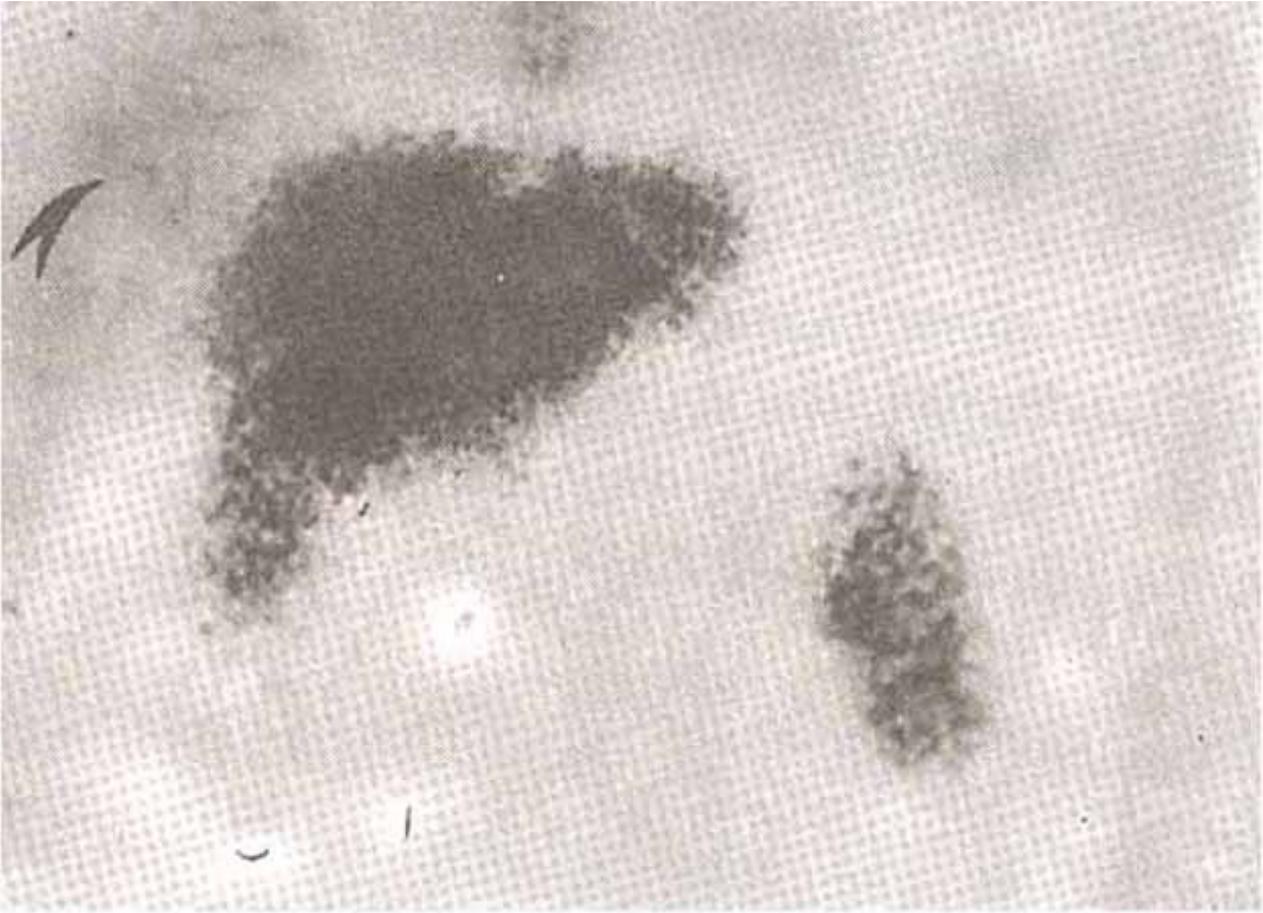
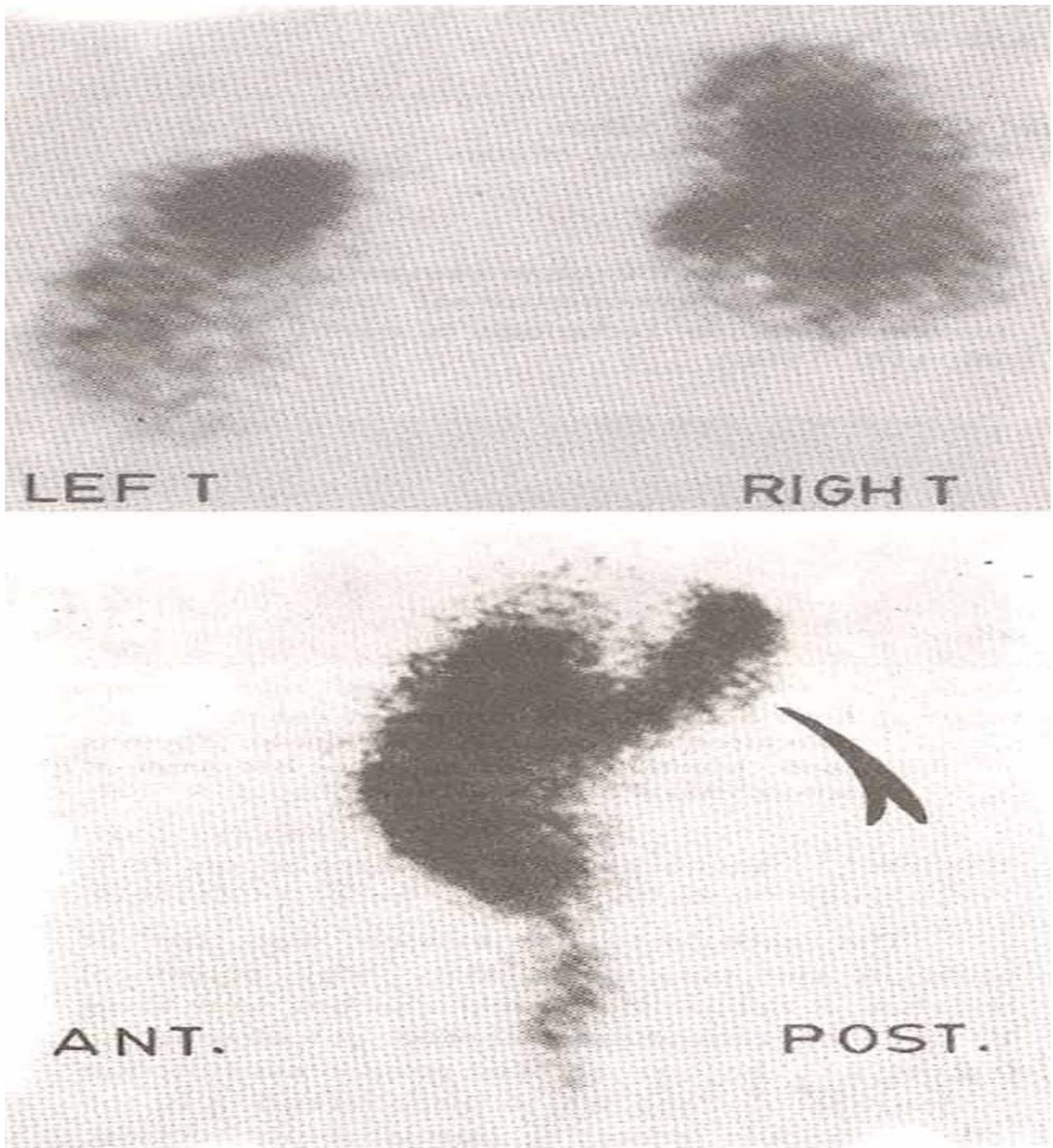


Figure 1. Liver Scan showing downward and medial displacement of both liver and spleen. There is good hepatic extraction. The Rib cage is faintly visualized (marked).

The scan findings were not typical of cirrhosis. A diagnostic ascitic fluid tap was done and the results were: pH 9, Sugar---, Occult blood---, Protein---. Urea was 22mg/dl, Creatinine 1.0mg/dl and Proteins 820mg/dl. Microscopy showed 15-20 pus cells/HPF, TLC 100/mm³, Polymorphs 90%, Lymphocytes 10%, Total cells including RBCs were 1400/mm³. The pathologist's impression was that of urine in the peritoneal cavity with peritoneal reaction. A radionuclide renal scan was done using 10 mCi of technetium labelled glucoheptonate (Figure 2).



Figures 2. (A&B). Renal Scan showing good extraction by both kidneys. Figure 2B shows the left lateral view with the abnormal channel (Marked) coursing upwards and curving anteriorly.

The scan showed good renal function on both sides, there was activity retention in the left upper pole indicating intrarenal obstruction. An abnormal drainage channel was seen arising from the lateral part of the left kidney. A lateral view showed the channel to course posteriorly and upwards and then curve slightly anteriorly.

The patient was advised surgery but she refused and left the hospital on the next day against medical advice.

DISCUSSION

The use of radionuclides in the investigation of the kidneys has the advantages of minimal invasiveness, no patient discomfort and the fact that a single injection gives information about renal perfusion, functional integrity of the renal cortices and the state of the urinary drainage system. There is almost no chance of allergic reaction to the injected radiopharmaceutical. The use of radionuclides in the detection of upper urinary tract abnormalities associated with trauma are reported to have a better sensitivity than IVP^{2,5} and in at least one major centre radionuclide renal studies were done as the primary screening procedure in cases of renal trauma¹.

In this patient there was difference of opinion initially about the origin of the ascitic fluid; as the liver and spleen were palpable a hepatic pathology was first suspected, however, liver scanning and the ascitic fluid report excluded this possibility. A second diagnosis of renoperitoneal fistula was made and a radionuclide study done. An abnormal urinary drainage tract was seen which confirmed the diagnosis. The ease with which this investigation was performed in this patient reiterates the advantages of nuclear medicine investigations in critical patients, especially as a part of the workup of those who have sustained trauma, iatrogenic or otherwise.

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