

Horseshoe kidney incidentally detected on bone scintigraphy

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Özet

Kemik sintigrafisinde saptanan atnalı böbrek anomalisi

Tüm vücut blood pool ve kemik sintigrafisinde 66 yaşındaki meme kanserli hastada atnalı böbrek anomalisi saptanmıştır. Kemik sintigrafisinde yalancı pozitiflik sebebi olabilecek atnalı böbrekler DMSA sintigrafisi ile de gösterilmiştir.

Anahtar kelimeler: Kemik Sintigrafisi, Böbrek Sintigrafisi, Atnalı böbrek

Abstract

A 66-year-old woman with breast cancer underwent a bone scintigraphy to evaluate for bone metastases. Blood pool and whole body bone scan images were obtained using Tc-99m MDP (technetium 99m-metilen diphosphonate). The scans revealed horseshoe kidney. A DMSA (dimercaptosuccinic acid) renal scintigraphy confirmed the horseshoe kidney.

Key words: Bone Scintigraphy, Renal Scintigraphy, Horseshoe Kidney

Introduction

Bone scintigraphy with Technetium-99m diphosphonates is the most widely used technique for the detection and surveillance of metastases spread of the skeleton. Because the radiopharmaceuticals are excreted in the urine by the kidneys, normal kidneys and bladder are well seen on skeletal scintigrams. Urinary tract abnormalities are detected as incidental findings in up to 15% of bone scans (1, 2). These abnormalities can result in bilaterally diffuse increased or decreased renal uptake; focally increased or decreased uptake in the urinary tract; abnormal renal size, shape, or position; and anomalous shape or position of the bladder. Here we report a case of horseshoe kidney incidentally detected on bone scintigraphy.

Case

A 66-year-old woman with breast cancer underwent a bone scintigraphy to evaluate for bone metastases. Anterior and posterior whole body bone images show incidental findings that suggest horseshoe kidney (Fig 1.). Blood pool image shows a vascular mass in the lumbar region (Fig.2). Horseshoe kidney was visualised in DMSA renal image (Fig.3).

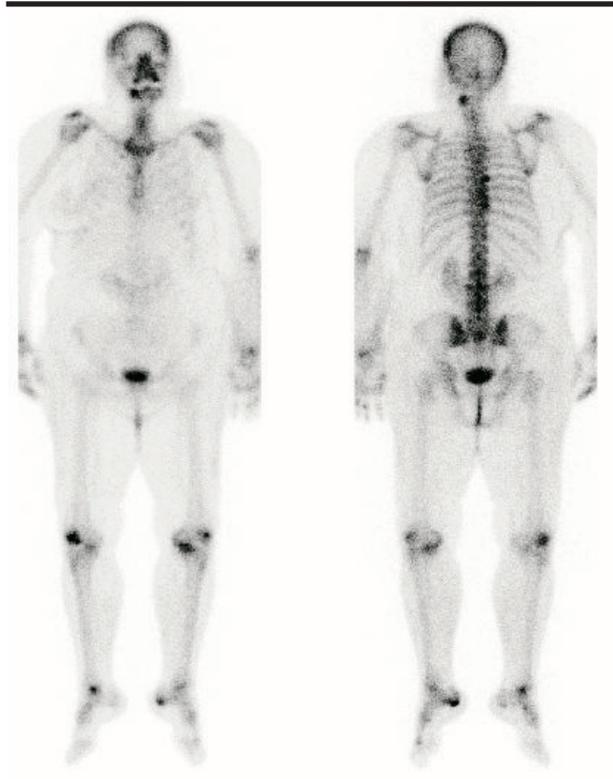


Figure 1. Anterior and posterior whole body bone images show that focal radiotracer accumulations of right angulus mandible, first cervical vertebrae, knees and ankles, probably due to dental infection and osteodegenerations. These images also show incidental findings of horseshoe kidney.

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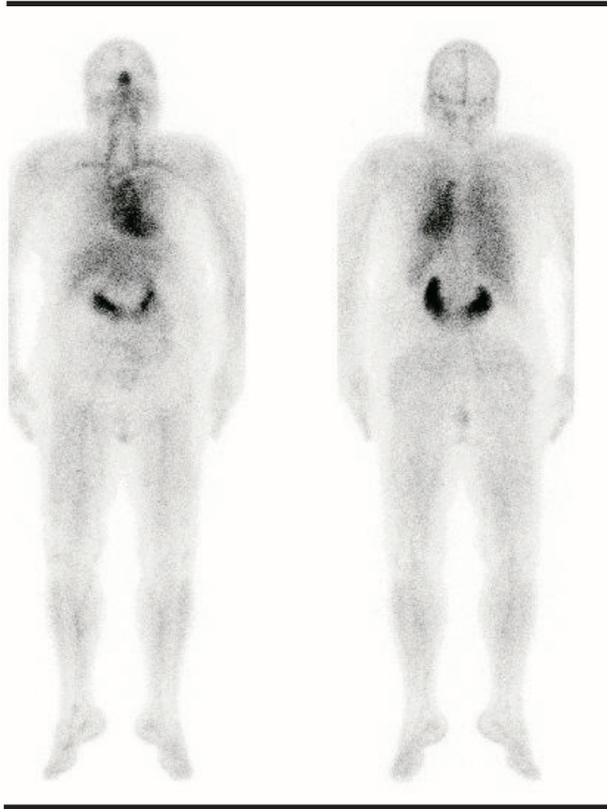


Figure 2. Whole body blood pool images show that horseshoe kidney findings.

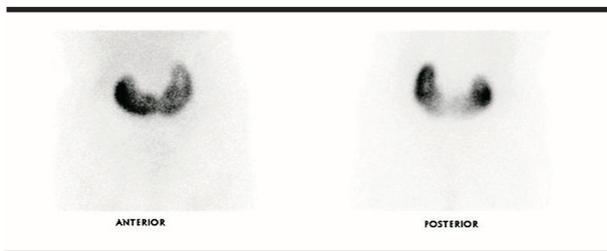


Figure 3. Anterior and posterior DMSA renal images show the horseshoe kidney.

Discussion

The horseshoe kidney is the most common type of renal fusion anomaly. It consists of two distinct functioning kidneys on each side of the midline, connected at the lower poles by an isthmus of functioning renal parenchyma or fibrous tissue that crosses the midline of the body. Horseshoe kidney is more commonly diagnosed in children. Patients are usually asymptomatic but they have higher incidence of disease when compared to the normal kidney (3).

There are a lot of complications of horseshoe kidney such as: ureteropelvic junction obstruction, recurrent infections, recurrent stone formation, an increased

risk of trauma of the isthmus, may pose problems for surgeons during abdominal surgery, increased incidence of renal tumors.

Horseshoe kidney can be confidently diagnosed with DMSA renal scintigraphy, which reveals the functioning parenchymal. Also horseshoe kidney is incidentally diagnosed on other nuclear medicine studies such as bone and hepatobiliary scintigraphies(4-6). In bone scintigraphy; activity in the functioning isthmus of a horseshoe kidney may be confused with abnormal uptake in the lumbar vertebra scan and misdiagnosed as bone metastases.(4,6). We incidentally detected the horseshoe kidney. The diagnosis was confirmed by DMSA renal scintigraphy.

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