

Tc-99m MAG3 신장 스캔시 뇨 누출과 유사한 유리 Tc-99m 과산화테크네튬에 의한 장관내 방사능

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Bowel Activity Caused by Free Tc-99m Pertechnetate Mimicking Urine Leaks during Tc-99m MAG₃ Renal Scintigraphy

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Abstract

A 43-year-old woman with diabetic nephropathy underwent a Tc-99m MAG₃ renal scintigraphy for the evaluation of renal function. Posterior images at 60 minutes demonstrated a migration of radiotracer activity beyond the lower pole of the left kidney, which might be incorrectly interpreted as urine leaks. However, the increased activities were moving along the bowel lumens over time. Another ring-like radioactivity was also seen in the suprasplenic region, and increased with time. These radioactivities were in the gastric fundus and gastrointestinal tract and caused by free Tc-99m pertechnetate.

Key Words : urine leak, free Tc-99m pertechnetate, Tc-99m MAG₃, renal scintigraphy

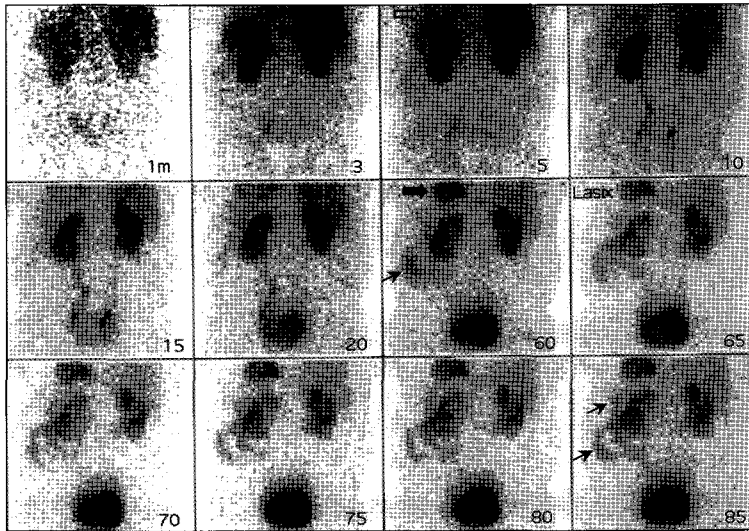
Legends

Fig. 1. A 43-year-old woman with diabetic nephropathy underwent a Tc-99m MAG₃ renal scintigraphy for the evaluation of renal function. Posterior images demonstrated delayed uptake and excretion of the radioactive tracer. Delayed posterior images at 60 minutes revealed a migration of the tracer activity beyond the lower pole of the left kidney (black arrow). These scintigraphic findings

might be mimicking urine leaks. However, the increased activities were moving along the bowel lumen over time (black arrows on 85-minute image). The ring-like accumulation of the radioactive tracer in the suprasplenic region was also visualized on earlier posterior images (open arrow), and increased with time. Delayed posterior images at 60 minutes revealed a intense radioactivity (thick black arrow), corresponding to activities in the gastric fundus. The radioactivities in the gastric fundus and gastrointestinal tracts were due to free Tc-99m pertechnetate which were taken up, and then excreted by these areas.

Tc-99m pertechnetate can be secondary to a poor tag with the formation of free Tc-99m pertechnetate

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or hydrolyzed-reduced Tc-99m. Free Tc-99m pertechnetate is taken up and excreted by the thyroid gland, salivary gland, gastric mucosa, and gastrointestinal tracts. Therefore, the presence of Tc-99m pertechnetate may result in an increased activity in these organs.¹⁻³⁾ In the renal scintigraphy, posterior images were taken because of the retroperitoneal location of the kidney. Because we are not familiar with the radioactivity in these areas on the posterior image, we have to be careful to interpret the images.

References

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