

## Tc-99m MDP, thallium-201 chloride and Tc-99m MAG3 renal uptake in subacute and chronic radiation nephritis compared

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The authors present a comparison of the findings for thallium-201 (Tl-201), Tc-99m MAG3 and Tc-99m MDP in subacute and chronic radiation nephritis in a 9-yr-old boy who was treated by radiation therapy for alveolar rhabdomyosarcoma of the left chest wall by a radiation port that partially included the left kidney. Tl-201 imaging three and six months later showed a cortical defect in the left kidney due to radiation nephritis. Tc-99m MDP scan showed increased uptake on both occasions, but more marked in the subacute period than in the chronic period. Tc-99m MAG3 showed decreased concentration and increased cortical retention three months later. Six months after the radiation therapy, a cortical defect corresponding to the cortical area that showed increased parenchymal retention was more prominent in the Tc-99m MAG3 scan.

In the present case, Tc-99m MDP, Tl-201 and Tc-99m MAG3 findings may provide useful information for understanding pathophysiological damage in the kidney after radiation.

**Key words:** radiation nephritis, Tc-99m MDP, Tc-99m MAG3, Tl-201