

Extraosseous accumulation of ^{99m}Tc -HMDP to radiation nephropathy, mimicking recurrent neuroblastoma

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Objective: The aim of this study is to clarify the period of extraosseous accumulation of ^{99m}Tc -hydroxymethylenediphosphonate (HMDP) to radiation nephropathy mimicking recurrent or remnant neuroblastoma in the pararenal region. **Methods:** We reviewed five neuroblastoma and one ganglioneuroblastoma patients (2 boys and 4 girls aged 1–9 years) who underwent ^{99m}Tc -HMDP bone scintigraphies periodically before and after radiation therapy. **Results:** Increased renal uptake coincident with the radiation port appeared in 5 of 6 patients from 0 to 3 months (mean 1.7 months), and persisted up to 7 months after the completion of radiotherapy. Renal uptake of ^{99m}Tc -HMDP was gradually decreased, and eventually became accumulation defects in 5 of 6 patients from 6 to 17 months (mean 8.9 months) after radiotherapy. **Conclusion:** When extraosseous accumulation is found after radiation therapy in neuroblastoma patients, radiation nephropathy would be a candidate in the differential diagnosis besides recurrent or remnant tumor.

Key words: radiation nephropathy, ^{99m}Tc -HMDP bone scan, extraosseous accumulation, neuroblastoma