

## Scintigraphic detection of recurrence of medullary thyroid cancer

Mitsuru KOIZUMI,\* Yasuhiko YAMADA,\* Etsuji NOMURA,\* Maki AMANO,\*\* Yuji OKAJIMA,\*\*  
Hiromi OKIZUKA,\*\* Keiko YAMADA,\*\* Seishi SAWANO,\*\* Takashi KITAHARA,\*\*  
Takashi YAMASHITA,\*\* Minoru NAKANE\*\*\* and Toshio ISHIKAWA\*\*\*

*Departments of \*Nuclear Medicine, \*\*Radiology and \*\*\*Internal Medicine,  
Cancer Institute Hospital*

A case of recurrent medullary thyroid cancer (MTC) was evaluated with  $^{123}\text{I}$ -MIBG,  $^{99\text{m}}\text{Tc}$ (V)-dimercaptosuccinic acid (DMSA), and  $^{201}\text{Tl}$  scintigraphy. This patient had been operated on for MTC in the right thyroid. Recently a left neck mass was noticed, and was suspected of being a recurrence of MTC based on increased plasma calcitonin (CT) and carcinoembryonic antigen (CEA). He was operated on for the neck mass which revealed MTC, and papillary thyroid cancer was incidentally found in the left thyroid, but the CT and CEA levels remained high, and remaining MTC tumor was suspected. But the location of the tumor was unknown. Although  $^{99\text{m}}\text{Tc}$ (V)-DMSA scintigraphy is generally believed to be superior in sensitivity to  $^{123}\text{I}$ -MIBG scintigraphy, it did not demonstrate the tumor site but  $^{201}\text{Tl}$  and  $^{123}\text{I}$ -MIBG did. Furthermore,  $^{123}\text{I}$ -MIBG scintigraphy has greater specificity for tumors which arise in the neural crest. Judging from the results of this case and cases reported in the literatures, both  $^{123}\text{I}$ -MIBG and  $^{99\text{m}}\text{Tc}$ (V)-DMSA should be performed in the detection of recurrent MTC.

**Key words:** medullary thyroid cancer (MTC),  $^{123}\text{I}$ -MIBG,  $^{99\text{m}}\text{Tc}$ (V)-DMSA,  $^{201}\text{Tl}$