

Usefulness of thallium-201 SPECT imaging for the evaluation of local recurrence of colorectal cancer

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Purpose: To clarify the accumulation of thallium-201 in recurrent tumors in patients who had undergone resection of colorectal cancer and to evaluate the usefulness of thallium-201 single photon emission computed tomography (SPECT) images for distinguishing recurrent tumors from postoperative changes.

Materials and Methods: Thallium-201 SPECT images and CT images of 22 consecutive patients suspected to have local recurrence of colorectal cancer based on clinical symptoms and signs were reviewed. CT was performed on all patients.

Results: In nine of the 11 patients who had local recurrence, SPECT images showed positive thallium uptake, but in 10 of the 11 patients confirmed to have no recurrence, SPECT images showed negative thallium uptake. Sensitivity was 81.8% (9/11) specificity was 90.9% (10/11), and accuracy was 86.4% (19/22). There were five patients in whom CT results were inconclusive. All of them had rectal cancer and had undergone Miles' operation, and all were correctly diagnosed by thallium-201 SPECT.

Conclusion: Thallium-201 exhibited intense uptake in recurrent colorectal cancer. Thallium-201 SPECT is considered to be a useful diagnostic tool for the detection of recurrence of colorectal cancer, particularly in patients with inconclusive CT results.

Key words: local recurrence of colorectal cancer, thallium-201 SPECT, CT