

The role of thallium-201 whole body scan with pelvic SPECT in patients with uterine cervical cancer treated by radiation therapy: a preliminary report

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Evaluation of tumor extent before treatment and its response to therapy is important. The aim of this report is to assess the usefulness with thallium-201 (Tl-201) imaging study including whole body scan and pelvic single photon emission computed tomography (SPECT) in patients with uterine cervical cancers treated by radiation therapy. Before irradiation, eleven patients received detailed physical examination and Tl-201 imaging studies. A 4-score grading system was set for evaluation. The interval between Tl-201 imaging follow-up and completion of radiotherapy is one to four months, and its findings were compared with those from CT scan and clinical evidence. Before radiation, left supraclavicular and paraaortic lymphadenopathy was identified in one patient from whole body scan. Accumulation of Tl-201 uptake is observed from pelvic SPECT in all patients. It seems that patients with more tumor bulk had more intense uptake, except for one case with history of suspected pelvic inflammatory disease (PID). After radiotherapy, complete or partial regression is observed. For 6 patients with complete regression (score = 0), no evidence of recurrence is confirmed by follow-up examinations. For three patients with little residual uptake (score = 1), one is suspected with residual density and she is under close follow-up, the other two patients seem due to uterine myoma or short latency. These three patients received another Tl-201 scan 6 months after irradiation completion and the score became zero. One patient with residual intense uptake (score = 2) suffered from relapse in the pelvis and abdomen. This preliminary report indicates that Tl-201 whole body scan and pelvic SPECT has potential in the assessment of response to radiotherapy in patients with uterine cervical cancers. However, further studies including more cases and longer follow-up are needed.

Key words: cervical cancer, thallium-201, single photon emission tomography, radiation therapy