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Concurrent versus sequential chemotherapy and radiotherapy in limited disease small cell lung cancer: a retrospective comparative study.

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BACKGROUND: Patients with limited-disease small cell lung cancer are treated with chemotherapy and chemotherapy combined with radiotherapy. Treatment schemes with curative intention include sequential or concurrent chemoradiotherapy, both combined with prophylactic cranial irradiation (PCI). It is unclear which scheme is superior. **PATIENTS AND METHODS:** Until 2001, patients received 4-5 cycles of chemotherapy. In cases of no complete response, palliative radiotherapy (RT) was given in 13 fractions of 3 Gy (CT-RT group, N=26). A total of 89 patients did not receive RT after chemotherapy (CT group). After complete response, curatively intended RT was given, of 16x2.5 Gy, concurrently with PCI of 15x2 Gy (SCT-RT group, N=111). From 2001, 40 patients received 4-5 cycles of chemotherapy concurrently with RT of 25x1.8 Gy. PCI was applied to patients with complete response (CCT-RT group). Endpoints were median survival time (MST) and overall survival (OS). **RESULTS:** MST of CT, CT-RT, SCT-RT and CCT-RT were 8.1, 12.5, 14.0 and 21.8 months, and 5-year OS 3.5, 4.8, 10.5 and 26.9%, respectively. Frequencies of brain metastasis after PCI in SCT-RT and CCT-RT patients were 16.4% and 8.7%, respectively. **CONCLUSION:** Concurrent chemoradiotherapy resulted in longer MST and higher OS than sequential chemoradiotherapy, chemotherapy with palliative radiotherapy or chemotherapy alone. Results may improve further by applying PCI at an earlier stage and increasing the RT dose.

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