

Early Clinical Experiences of Oncothermia in Locally Advanced Non-Small Cell Lung Cancer

Chang Geol Lee M.D.¹, Yang Gun Suh M.D.¹, Ji Hye Cha M.D.¹, Jao Ho Cho M.D.¹, Youn Han Lee Ph.D.¹

(1) Department of Radiation Oncology, Yonsei Cancer Center, Yonsei University Health System, Seoul, South Korea

Purpose

To evaluate early clinical outcome of Oncothermia combined with concurrent radiotherapy (RT) and/or chemotherapy (CTx) in locally advanced non-small cell lung cancer (NSCLC).

Materials and Methods

Since the introduction of Oncothermia (EHY-2000) machine at Yonsei Cancer Center in June 2012, a total of ten patients with locally advanced NSCLC were treated definitively with Oncothermia combined with concurrent RT and/or CTx-RT at Yonsei Cancer Center. The median age was 64 years (range 45-83 years), and all were male. The distribution of stage were 1 stage II, 2 stage IIIA, and 7 stage IIIB. Oncothermia was applied 2-3 times a week, 60 min/session. Mean total treatment session was 11 (range 10-12 sessions). The applied forwarded power was 100-10 W depending on the personal tolerance of the patients. Oncothermia was administered concomitantly with RT in 4 patients (OR group), with concurrent CTx-RT in 6 patients (OCR group). Median RT dose was 63 Gy (50-60Gy/5-7 wks). Concurrent CTx using Taxol/Carboplatin was administered 2 cycles during RT. Treatment response was evaluated with CT or MRI within three month after the last session of Oncothermia, using WHO criteria.

Results

Oncothermia was tolerated well in all patients, and no patient suffered significant side effects including fat necrosis, burn, and skin reaction. Complete response (CR) and partial response (PR) were observed in 2 (20%) and 8 (80%), respectively. Treatment response for each treatment group was: CR 1/4 (25%) and PR 3/4 (65%) for OR group; CR 1/6 (17%), PR 5/6 (83%) for OCR group.

Conclusion

Although the study was limited by small number of patients and short follow-up, we were able to show that oncothermia concomitantly with RT or CTx-RT resulted in significant response for locally advanced NSCLC without any adding side effects. We will continue follow-up and evaluate the efficacy of Oncothermia.