LONG-TERM OUTCOME OF POSTOPERATIVE ADJUVANT RADIOTHERAPY FOR THYMOMA

Huei-Chun Lu[1], Jian-Sheng Jan[1], Jin-Ching Lin[2,3]

Department of Emergency[1], Taipei Veterans General Hospital
Department of Radiation Oncology[2], Taichung Veterans General Hospital
Department of Medicine[3], School of Medicine, National Yang-Ming University

Purpose : To analyze the long-term outcome of postoperative radiotherapy for thymoma.

Materials and Methods : Patients with pathological-proven thymoma and receiving surgical resection plus postoperative radiotherapy ≧ 40 Gy were eligible for this retrospective study. From October 1984 to August 2002, 38 eligible patients were obtained from our Cancer Registration Database. We reviewed hospital charts, radiotherapy records and diagnostic imaging studies thoroughly. Tumor staging was defined according to the Masaoka staging system. Baseline characteristics of patients were median age 47 (range 22-83), male/female= 26/12, stage I/II/III/IV= 4/15/15/4. The radiotherapy was delivered by a wedge-pair or 3-D conformal-beam technique with a median dose of 50 Gy (range 40-68 Gy) by conventional fractionation. The end points were overall survival (OS), locoregional disease-free survival (LDFS) and metastasis-free survival (MFS) by the Kaplan-Meier method.

Results : After a median follow-up of 11 years, 13 of 38 patients had tumor relapse (2 locoregional recurrence, 7 distant metastasis, and 4 locoregional plus distant failure). The 5-year and 10-year of OS, LDFS, and MFS for all patients were 75.5% and 51.2%, 82.1% and 82.1%, and 83.5% and 56.7%, respectively. On univariate analysis, stages and the extent of surgical resection were the most important prognostic factors. Age, gender, radiation dose, and association of myasthenia gravis did not affect the survival significantly. The 10-year OS (24.1% vs. 89.5%, P = 0.0010), LDFS (59.9% vs. 100%, P = 0.0031), and MFS (29.6% vs. 82.9%, P = 0.0084) were significantly lower in patients with advanced-stage (III + IV) than in those with early-stage (I + II). Patients with total resection had better 10-year OS (60.6% vs. 11.3%, P = 0.0083), LDFS (86.4% vs. 53.3%, P = 0.1101), and MFS (66.4% vs. 0%, P = 0.0002) than those with subtotal resection. The multivariate analysis revealed that stage was the only significant prognostic factor.

Conclusion : Stages and the extent of surgical resection are the most important prognostic factors. Postoperative adjuvant radiotherapy has good tumor control for early-stage disease but is inadequate for advanced-stage disease. Chemotherapy should be considered for advanced-stage patients in future trials.

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Address reprint request to: Jin-Ching Lin, M.D., Department of Radiation Oncology, Taichung Veterans General Hospital, No. 160, Sec. 3, Chung-Kang Rd., Taichung 40705, Taiwan, R.O.C.