

AB006. OS01.06. Factors associated with survival in patients with thymoma: study of 523 cases from one institution

Feng-Ming (Spring) Kong¹, Hong Zhang², Weili Wang², Kenneth Kesler³, Maitri Kalra⁴, Patrick J. Loehrer⁴

¹Radiation Oncology, ²Radiation Oncology, ³Cardiosurgery, ⁴Hematology and Oncology, Indiana University School of Medicine, Indianapolis, IN, USA

Background: This study aims to (I) identify factors associated with overall survival in patients with thymoma from a single institution; (II) generate a predictive model for survival for better prognostic classification.

Methods: This is a retrospective study including pathologically confirmed thymoma at Indiana University of from 1975 to 2015. Important factors of patient, tumor and treatment modality were collected from medical records. The staging was carried out according to the Masaoka and SEERs (clinical) staging systems. Overall survival was estimated by the Kaplan-Meier method from the date of the first treatment and prognostic factors were analyzed by a cox proportional hazards regression multivariate analysis. The prediction accuracy of the model was compared using area under curves (AUC) on ROC curves.

Results: A total of 523 consecutive patients with thymoma were compiled: 53.1% female, 82.2% white. The median age

was 50 years (range, 13–89 years). There were 18.7% stage I, 17.0% stage II, 19.5% stage III, 35.4% stage IV and 9.4% unknown. The overall survival rates at 5 and 10 years after diagnosis were 88.7% and 66.0%, respectively. The 5-year survival rates, according to independent significant factors, were as following—age: <50 years (92.1%), and ≥50 years (85.0%) (P=6.11e-3); resection status: resected with negative margin (93.5%), resected with positive margin (90.3%), non-resected (84.2%) (P=6.34e-3); SEERS stage: local (98.4%), regional (95.0%), distant (76.6%), unknown (89.9%) (P=3.94e-5); Masaoka stage: I (95.8%), II (96.7%), III (90.7%), IV (81.7%), unknown (85.4%) (P=0.0159). Survival model analysis demonstrated significant improvement in predictive accuracy with a model of using all above independent factors (age, resection status and stage), with AUC of 0.64–0.65 versus 0.56 of stage alone (either SEERS or Masaoka system) at 5 and 10 years.

Conclusions: Age, resection status, staging groups of SEER and Masaoka are significant factors for overall survival prediction in patients with thymoma. A model of combining age and stage can predict survival better than any of the existing staging systems.

Keywords: Thymoma; overall survival prediction

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