Treatment Impact on Survival of Early Stage NSCLC: Phramongkutklao Hospital Experience

P. Limpawittayakul MD, N. Prasongsook MD, K. Seetalarom MD, K. Peechatchanan MD and S. Saichaemchan MD

Medical Oncology Unit, Department of Medicine, Phramongkutklao Hospital and College of Medicine.

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Background: Disparity in stages of non-small cell lung cancer (NSCLC) may be affecting treatments and variable outcomes especially in early stage NSCLC (stage Ia-IIIa). We determined clinical characteristics, treatments focused on platinum based chemotherapy and prognostic factors for survival at Phramongkutklao hospital.

Method: We reviewed database of 216 patients who were diagnosed early stage NSCLC between January 2003 and December 2013 at Phramongkutklao hospital. The clinical characteristics, pathological features and treatments were collected and analyzed. Period prevalence was calculated by descriptive statistics, cox proportional hazards model and hazard ratios (HRs) including a stepwise backward procedure were used to estimate survival.

Results: A total of 1,550 patients who were diagnosed NSCLC between January 2003 and December 2013 at Phramongkutklao hospital, 216 patients (14%) were diagnosed early stage. Stratified by stage found stage Ia 35%, stage Ib 13%, stage Ila 8%, stage Ilb 11% and stage IIIa 33%. The median follow-up time was 36.6 months. 5-year disease free survival (DFS) rate were 33.8% and overall survival (OS) rate were 48.9% respectively. In univariate analysis revealed total smoke ≥ 20 pack-year, ECOG performance status ≥ 2, stage IIIa, poorly differentiated histology grading, lymphatic-vascular & perineural invasion were associated with decrease OS and DFS, however in multivariate analysis the only significant prognostic factor that affected were stage IIIa disease and poorly differentiated. According to adjuvant chemotherapy treatments, there was no statistical difference between cisplatin versus carboplatin-based regimens.

Conclusions: Only one of seventh of NSCLC patients were found early stage, however 5-year OS rate remained poor. Factors that affected shorter survival were higher stage (stage IIIa) at diagnosis and poorly differentiated histology grading. Adjuvant chemotherapy, platinum based-regimens could be increase OS and DFS.