A1.3: Comorbidity and Related Predictors of Decreased Lung Cancer Survival

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Abstract:
Introduction: Lung cancer, especially with comorbidity, is associated with poor disease prognosis and death in both men and women. This study examined comorbidity impact on lung cancer survival one-year after initial hospital discharge (IHD).

Method(s): Electronic data for 182 adults with lung cancer in a university hospital in Appalachia were analyzed retrospectively. The sample was Caucasian (98.9%); mean age = 66.5 years; 55.5% males; 66% married; 78.3 % lived with family; 90% unemployed/retired; 89.6% had smoked cigarettes; 50% overweight or obese, and 9% underweight. Cancer stages were moderate to severe levels (77% in stage IIIA/B or above). Charlson Comorbidity Index (CCI): mean=4.39 + 3.2; median=6; range: 0-12. Predominant comorbid diseases were cardiovascular (74.7%) and COPD (52.7%); others: GI (38%), depression/anxiety (28.6%), diabetes (27.5%), other cancers (29%). Death rate at 1-year following IHD was 50.5%. ~80% of deaths occurred within 6 months
after IHD (median survival: 103.5 days). Univariate analysis (Kaplan-Meier method) and multivariate survival analysis (Cox regression) were used to detect predictors of cancer death at 1 year.

**Results:** Comorbidity was an independent risk factor on survival (p<0.001). Underweight (BMI<18.5), cancer metastasis (CCI>5), GI symptoms, narcotic medications at admission, and infection (antibiotic use, ↑WBC) predicted significantly poor 1-year survival. Survival analysis identified comorbidity (HR=1.17, 95% CI: 1.07; 1.29), underweight (HR=4.51, 95% CI: 2.00; 10.16, obesity reference), use of antibiotics (HR=0.44, 95% CI: 0.27; 0.73), and abnormal/high WBC at discharge (HR=1.03, 95% CI: 1.01; 1.04) as independent predictors of mortality, when adjusted for cancer severity. Age, gender, and specific type of comorbid disease had no significant effects on survival.

**Discussion & Conclusions:** In an Appalachian population, chronic disease comorbidity, underweight, and infection had significant impact on poor long-term survival among patients with lung cancer regardless of type of comorbid disease. Methods such as telemonitoring to manage comorbidities, maintain weight, and control infections could improve survival for patients with lung cancer. Further research is needed with diverse populations, and with controlled trials.

**Abstract History:**
This abstract has not been presented or accepted for presentation in whole or in part at the SNRS or other scientific meeting.

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No, I (or a member of my immediate family) have not received something of value* from or own stock (or stock options) in a commercial company or institution related directly or indirectly to the subject of my presentation.

**FDA Disclosure:**
I will not be describing any pharmaceutical and/or medical device.

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