

Predictors of one-year survival after lung cancer surgery

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One-year survival after lung cancer surgery varies with age, comorbidity, and other clinical factors, but not with geographic remoteness and socioeconomic status.

Background

There have been few reports regarding short term survival after lung cancer surgery in Australia. In this study, we analysed the predictors of survival at one year following lung cancer resection in Queensland, the third most populous state in Australia.

Methods

Data on all Queensland residents who were diagnosed with non-small lung cancer (NSCLC) between 2000 and 2010 and who subsequently underwent surgery for lung cancer was obtained from the Queensland Oncology Repository. One year survival following surgery was modelled using multivariate Cox proportional hazards regression controlling for gender, age, comorbidity, anaesthetic score, remoteness of residence, and socioeconomic status.

Results

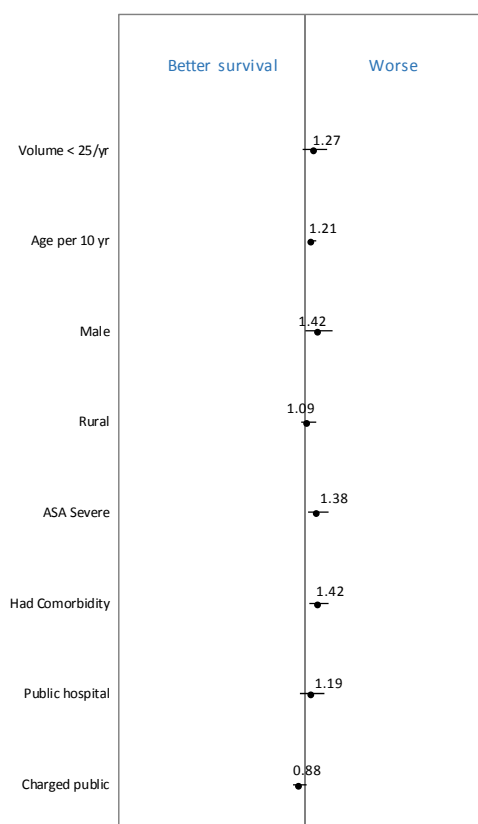
A total of 2,799 NSCLC patients who underwent resection for lung cancer in 17 hospitals across the state were included in the analysis; the median age was 67 years and 61% were males.

Overall crude 1-year survival was 88%. In multivariate modelling, independent predictors of death within one year of surgery included male gender (hazard ratio [HR] 1.4, 95% confidence interval [CI] 1.0-2.0, $p = 0.04$), age (per 10 year increment, HR 1.2, CI 1.1-1.3, $p < 0.001$), presence of one or more major comorbidities (HR 1.4, CI 1.1-1.8, $p = 0.004$), and anaesthetic scores of severe disease or worse (HR 1.4, CI 1.1-1.8, $p = 0.01$). Remoteness of residence and socioeconomic status were insignificant factors in the model.

Conclusion

Demographic and clinical patient characteristics are significant prognostic factors for short term survival following lung cancer surgery. This study further suggests that remoteness and socioeconomic status do not influence the quality of surgical care for lung cancer in Queensland.

Multivariable Cox proportional hazards model of 1-year survival following NSCLC surgery; values are hazard ratios (HR) with 95% confidence intervals



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