中文題目：利用查爾森共病症指標預測台灣新發生透析個案的長期死亡率

英文題目：Predicting long term mortality of incident dialysis patients in Taiwan – a 10 year nationwide cohort study

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Background:

Taiwan has the world's highest incidence and prevalence of end-stage renal disease (ESRD). Comorbidity index is a predictor of mortality in dialysis patient. But there are only single centers, involved small numbers of patients, and few reports for predicting long-term mortality. The aim of this study was to perform a population-based cohort study to investigate the survival rate after the initiation of hemodialysis therapy in ESRD patients.

Materials and Methods:

This population-based cohort study data were obtained from catastrophic illness registration of Taiwan National Health Insurance Research Database. Incident dialysis Patients were received hemodialysis or peritoneal dialysis more than 90 days between Jan, 1, 1998, and Dec, 31, 2008. We excluded individuals younger than 18 years or renal transplantation patients. We calculated the Charlson comorbidity index (CCI) and age-weighted CCI according to ICD9 coding. We categorized CCI into five groups as index score <3, 4-6, 7-9, 10-12, >13. Mean survival years of ESRD patients in five comorbidity index groups and in different age groups were analyzed. A Cox proportional hazards model and Kaplan–Meier estimate with log rank tests were declared the survival in follow up period for each CCI levels.

Result:

There were 76289 incident dialysis patients, whose mean age (± SD) is 62.12 (± 13.68) years, 51.57% of patients were women, 38.86% was diabetic. The distribution of CCI into five groups were 42.83% in index score less than 3, 41.08% in index score 4-6, 12.39% in index score 7-9, 2.87% in index score 10-12, and 0.83% in index score more than 13. Older patients were more likely to be in the higher comorbidity index. In cox proportional hazard models, elderly patients independently was increased risk of all-cause mortality significantly (p-value<0.01) on univariate and multivariable analysis. For CCI scores, mortality increased steadily with higher comorbidity both for unadjusted and for adjusted models. Mean survive years decreased steadily with increased CCI levels. Subgroup analysis of median survival years based on CCI revealed 4.87 years survival period in CCI 10-12 patients and 4.18 years survival period in CCI > 13 patients younger than 80 years old. However, compare to patients older than 80 years old, lower median survival years was known as 3.13 years survival period in CCI 10-12 patients and only 2.02 years survival period in CCI > 13.

Conclusion:

We expect that Charlson comorbidity index is strong predictor of survival in Taiwan. The higher comorbidity index in incidence dialysis patient is associated with the lower long-term survival rate.