中文題目：重症病人長期惡性腫瘤發生率研究- 國家型登錄研究之競爭風險存活分析

英文題目：Acute critical illness and cancer risk: Implications from a nationwide population based study in Asia

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Background: The objective of this study was to identify the risk of incident cancer among patients with acute critical illness.

Methods: The study applied the big database from the National Health Research Institutes in Taiwan. The risk of incident cancer over a 12-year period in patients with 4 types of newly diagnosed acute critical illness (septicemia/septic shock, acute myocardial infarction, hemorrhagic stroke and ischemic stroke) was investigated using Cox proportional hazards regression model with further controlling for the competing risk of death.

Results: This study included 42,675 patients in the acute critical illness cohort and 42,675 patients in the age- and sex-matched comparison cohort. Correlation between the incidence of cancer and critical illness was found after adjusting for age, sex, comorbidities and further controlling for death [adjusted subhazard ratio (aSHR) = 1.73, 95% confidence interval (CI) = 1.63-1.84]. Five common incident cancers associated with acute critical illness were hematologic malignancy (aSHR = 4.00, 95% CI = 3.11-5.14), cancers of liver (aSHR = 2.25, 95% CI = 1.93-2.63), uterus (aSHR = 1.86, 95% CI = 1.32-2.61), head and neck (aSHR = 1.79, 95% CI = 1.39-2.30) and esophagus (aSHR = 1.62, 95% CI = 1.09-2.42). Among these cancers, septicemia/septic shock was found to confer a higher risk of incident cancer compared to other subtypes of acute critical illness.

Conclusion: This research is the first to tackle this clinically relevant issue regarding the types of acute critical illness most associated with cancer development with a very large sample size and robust methods. After adjustment for the potential confounding factors and consideration of the competing risk of death, the association between having an acute critical illness and incident cancer was noted.