Atrial fibrillation increased in-hospital and 4-year all-cause mortality in Critically ill patients with liver cirrhosis

Yanting Luo

Third Affiliated Hospital of Sun Yat-Sen University

Bingyuan Wu

Third Affiliated Hospital of Sun Yat-Sen University

Yuankai Wu

Third Affiliated Hospital of Sun Yat-Sen University

Long Peng

Third Affiliated Hospital of Sun Yat-Sen University

Zexiong Li

Third Affiliated Hospital of Sun Yat-Sen University

Jieming Zhu

Third Affiliated Hospital of Sun Yat-Sen University

Zhongzhen Su

Fifth Affiliated Hospital of Sun Yat-sen University

Jinlai Liu

Third Affiliated Hospital of Sun Yat-Sen University

Suhua Li

Third Affiliated Hospital of Sun Yat-Sen University

Yutian Chong (✉ chongyt@mail.sysu.edu.cn)

Third Affiliated Hospital of Sun Yat-Sen University <https://orcid.org/0000-0001-8215-4393>

Research

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Abstract

Objective

The purpose of this study was to use a large database that contains information on patient intensive care unit (ICU) admissions to study critically ill patients with cirrhosis and the relation with atrial fibrillation and short-term and 4-year mortality.

Methods

The Monitoring in Intensive Care Database III database was used to identify patients with cirrhosis hospitalized in an ICU from 2001 to 2012. Demographic and clinical data were extracted from the database. Clinical data and demographic information were collected for each patient in our study. Kaplan-Meier analysis and multivariate Cox regression models were performed to examine the relation between atrial fibrillation and in-hospital and 4-year all-cause mortality.

Results

A total of 1,481 patients (mean age 58 years, 68% male) with liver cirrhosis treated in an ICU were included in the analysis, and the prevalence of atrial fibrillation was 14.2%. The in-hospital all-cause mortality rate was 26.60%, and patients who had a significantly higher rate of atrial fibrillation (21.57% vs. 11.50%, $P < 0.001$). Multivariate analysis indicated that atrial fibrillation was significantly associated with in-hospital all-cause mortality (hazard ratio [HR] = 1.52, 95% confidence interval [CI]: 1.19 to 1.95; $P < 0.001$), and 4-year all-cause mortality (HR = 1.55, 95% CI: 1.12 to 2.13; $P = 0.008$). Kaplan-Meier survival analysis showed that patients with atrial fibrillation had a significantly higher in-hospital and 4-year all-cause mortality rate than patients without atrial fibrillation.

Conclusions

Critically ill patients with liver cirrhosis have a significantly increased rate of atrial fibrillation, and the presence of atrial fibrillation is an independent risk for in-hospital and 4-year all-cause mortality.

Full Text

Due to technical limitations, full-text HTML conversion of this manuscript could not be completed. However, the manuscript can be downloaded and accessed as a PDF.

Tables

Due to technical limitations, table 1, 2, 3, 4, 5 is only available as a download in the Supplemental Files section.

Figures

Figure 1

Flow diagram of patient inclusion.

Figure 2

Kaplan-Meier plots of atrial fibrillation and A) in-hospital survival and B) 4-year survival. Differences between the 4 were significant (log-rank test; $P = 0.024$ and $P = 0.001$). Cox regression plots for atrial fibrillation and C) in-hospital survival ($P = 0.025$) and D) 4-year survival ($P = 0.001$).

A

B

Figure 3

Performance of MELD and SOFA scores for predicting A) in-hospital mortality and B) 4-year mortality. MELD: model for end-stage liver disease; SOFA: sequential organ failure assessment.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [Tables.pdf](#)