

Increased mortality with peptic ulcer bleeding in patients with both compensated and decompensated cirrhosis

Preethi G. K. Venkatesh, MD,¹ Sravanthi Parasa, MD,² Basile Njei, MD, MPH,³ Madhusudhan R. Sanaka, MD,¹ Udayakumar Navaneethan, MD¹

Cleveland, Ohio, USA

Background: Cirrhosis is associated with worse outcomes in peptic ulcer bleeding (PUB). There are no population-based studies from the United States on the impact of cirrhosis on PUB outcomes.

Objective: To investigate the impact of cirrhosis on outcomes of patients with PUB.

Design: Cross-sectional study.

Setting: Nationwide Inpatient Sample 2009.

Patients: International Classification of Diseases, the 9th revision, codes were used to identify patients with PUB and cirrhosis. The control group was patients with PUB without cirrhosis.

Main Outcome Measurements: In-hospital mortality, length of stay, and hospitalization costs.

Results: A total of 96,887 discharges with PUB as a diagnosis were identified—3574 with PUB and cirrhosis and 93,313 with PUB alone without cirrhosis. Mortality of PUB with concomitant cirrhosis was higher than in the control group without cirrhosis (5.5% vs 2%; $P = .01$); decompensated cirrhosis had higher mortality than did compensated cirrhosis (6.6% vs 3.9%; $P = .01$). In multivariate analysis, the presence of cirrhosis independently increased mortality (adjusted odds ratio (aOR) 3.3; 95% confidence interval [CI], 2.2-4.9). Stratified analysis showed that decompensated cirrhosis (aOR 4.4; 95% CI, 2.6-7.3) had higher mortality than compensated cirrhosis (aOR 1.9; 95% CI, 1.04-3.6). There was no difference in the proportion of patients who underwent endoscopy within 24 hours (51.9% vs 51.1%; $P = .68$) between those with cirrhosis and controls. Patients with cirrhosis received less surgical intervention (aOR 0.8; 95% CI, 0.6-0.9) compared with controls. Hospitalization costs also were increased in patients with decompensated cirrhosis.

Limitations: Administrative data set.

Conclusion: Both decompensated and compensated cirrhosis are associated with increased mortality in patients with PUB. (Gastrointest Endosc 2014;79:605-14.)

Peptic ulcer bleeding (PUB) contributes to significant morbidity and mortality, with more than 250,000 admissions annually in the United States.¹ Patients with

cirrhosis are at risk for both variceal and nonvariceal causes of GI bleeding. Approximately 50% of nonvariceal upper GI bleeding in patients with cirrhosis is attributed to PUB.² In

Abbreviations: aOR, adjusted odds ratio; CCI, Charlson comorbidity index; HCUP, Healthcare Cost and Utilization Project; ICD-9 CM, International Classification of Diseases 9th revision, clinical modification; LOS, length of stay; NIS, Nationwide Inpatient Sample; NSAID, nonsteroidal anti-inflammatory drug; PUB, peptic ulcer bleeding.

DISCLOSURE: The study was supported by a research grant from the Inflammatory Bowel Disease Working Group and the American College of Gastroenterology (U. Navaneethan). No other financial relationships relevant to this publication were disclosed.

Copyright © 2014 by the American Society for Gastrointestinal Endoscopy 0016-5107/\$36.00

<http://dx.doi.org/10.1016/j.gie.2013.08.026>

Received March 27, 2013. Accepted August 22, 2013.

Current affiliations: Digestive Disease Institute, The Cleveland Clinic, Cleveland, Ohio (1); Department of Medicine, Kansas University Medical Center, Kansas City, Kansas (2); Department of Medicine, University of Connecticut Health Center, Farmington, Connecticut, USA (3).

Reprint requests: Udayakumar Navaneethan, MD, Digestive disease Institute-Desk A31, The Cleveland Clinic, 9500 Euclid Ave, Cleveland, OH 44195.

If you would like to chat with an author of this article, you may contact Dr Navaneethan at navaneu@ccf.org.

addition, patients with cirrhosis with PUB have substantial morbidity and mortality.^{3,4} In fact, an earlier study reported that 15% of patients with cirrhosis died within 6 weeks after nonvariceal upper GI bleeding.³ Also, cirrhosis is identified as an independent predictor for recurrent bleeding in patients with peptic ulcer disease.⁵⁻⁷

Patients with cirrhosis have several predisposing factors that increase their susceptibility for bleeding from peptic ulcers. These patients are thrombocytopenic and have abnormal coagulation factor levels; concomitant renal insufficiency also can be seen, which increases bleeding risk.⁸⁻¹⁰ In a large, population-based study from Taiwan, patients with cirrhosis had a significantly higher risk of peptic ulcer rebleeding after adjusting for other confounding factors.⁷ In contrast to these studies, a recent study showed that mortality and morbidity were not different in patients with cirrhosis compared with controls.¹¹

In spite of the increased morbidity of PUB in patients with cirrhosis, population-based studies from the United States that have reviewed the impact of cirrhosis on outcomes of patients with PUB are not available. In clinical practice, we observe that patients with PUB and concomitant cirrhosis rebleed frequently, do poorly, and have higher mortality rates than those without cirrhosis. To our knowledge, the natural history and the impact of cirrhosis on the outcomes of patients with PUB have not been studied in a population-based study in the United States. We sought to determine from a nationwide database the impact of cirrhosis on the outcomes of hospitalized patients with PUB.

The aims of our study were to (1) compare the in-hospital mortality of patients with PUB in patients with cirrhosis and controls without cirrhosis, (2) compare the in-hospital mortality for patients with PUB and compensated and decompensated cirrhosis, and (3) study the impact of cirrhosis on the length of stay, requirement for surgical intervention, and total hospitalization costs in patients with PUB.

METHODS

Data source

We obtained data from the Nationwide Inpatient Sample (NIS), which is the largest all-payer inpatient care database in the United States. The Agency for Healthcare Research and Quality maintains the Healthcare Cost and Utilization Project (HCUP), and it represents about a 20% stratified sample of U.S. community hospitals, including all non-federal, short-term general and subspecialty hospitals, public hospitals, and academic medical centers. The data includes demographic variables (including age, sex, race/ethnicity), discharge disposition, primary and secondary diagnoses (up to 15), primary and secondary procedures (up to 15), primary expected payers, total hospital charges, and length of stay (LOS). For our analysis, we

Take-home message

- Both decompensated and compensated cirrhosis are associated with a significant healthcare burden in hospitalized patients with peptic ulcer bleeding and contribute to higher mortality.

used data from the HCUP NIS for the year 2009, which contains data from 44 states and 1050 hospitals, accounting for over 39 million discharges.

Study groups, inclusion and exclusion criteria

The inclusion criteria for our study were all discharges included in the 2009 NIS dataset, with patient age at admission between 18 and 90 years and a primary discharge diagnosis code, International Classification of Diseases 9th revision [ICD-9 CM] of PUB. The discharge diagnosis of PUB was ascertained by using the ICD-9 CM codes, which include both bleeding gastric and duodenal ulcers (Appendix 1, available online at www.giejournal.org). These codes have been studied in the past and were shown to have a good sensitivity and positive predictive value for GI bleeding.¹²⁻¹⁴

We used previously defined criteria for compensated and decompensated liver disease by using the Baveno IV classification of cirrhosis severity. Three groups of patients were defined for the study. All patients who were included in the analysis should have had a primary diagnosis of PUB during the hospitalization. The first group was patients with no liver disease. The second group of patients had compensated liver disease (without ascites or variceal bleeding or hepatorenal syndrome: Baveno IV stages 1 and 2), and the third group of patients had decompensated liver disease (with ascites, hepatic encephalopathy, and/or hepatorenal syndrome: Baveno IV stages 3 and 4).¹⁵ These have been used in the past to define compensated and decompensated cirrhosis and are useful to identify patients accurately.¹⁶

Our study group included inpatients with a primary diagnosis of PUB and a concomitant diagnosis of cirrhosis (ICD-9 CM codes 571.2, 571.5, 571.6). Patients with coexisting ICD-9 CM codes for variceal hemorrhage were excluded from our primary analysis. A sensitivity analysis including variceal bleeding as a secondary diagnosis was performed as long as it was not a primary diagnosis code (these patients may have had variceal bleeding in the past and hence it was listed as a secondary diagnosis; results not reported). Patients were classified into decompensated and compensated cirrhosis as described earlier. Decompensated patients with cirrhosis had a primary diagnosis of PUB and a concomitant diagnosis of hepatorenal syndrome (ICD 9 code 572.4), ascites (789.5), portal hypertension (572.3), or hepatic encephalopathy (572.2). Patients with compensated cirrhosis should not have any of

Download English Version:

<https://daneshyari.com/en/article/3303263>

Download Persian Version:

<https://daneshyari.com/article/3303263>

[Daneshyari.com](https://daneshyari.com)