Clinical outcomes of variceal and non-variceal upper gastrointestinal bleeding in patients with liver cirrhosis

120

Garrett Kang, Le Shaun Ang, Wen Hui Leia Teo, Yu Wei Cheryl Huang, Venkataraman Narayan, Andrew Boon Eu Kwek, Tiing Leong Ang, Yu Jun Wong

INTRODUCTION

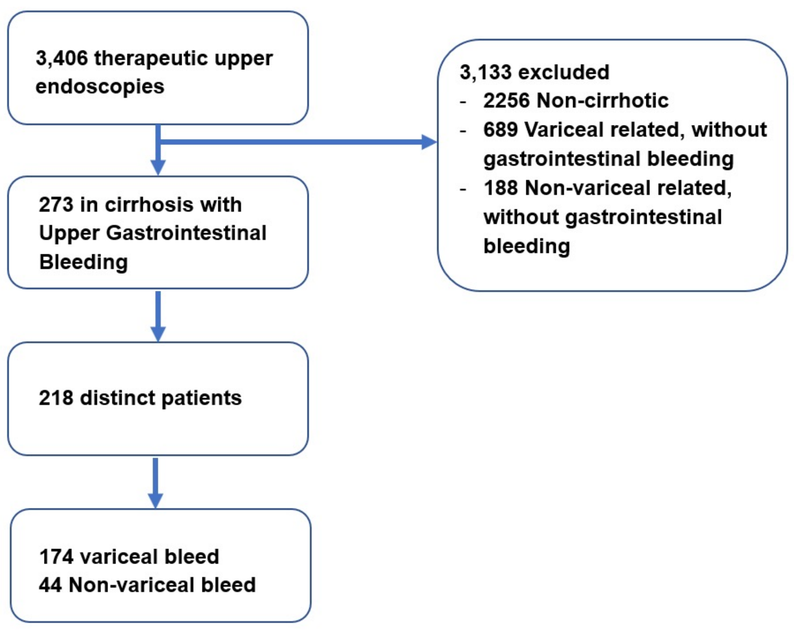
Upper gastrointestinal bleeding (UGIB) has significant morbidity and mortality in patients with liver cirrhosis. Up to 15% of UGIB in cirrhosis patients is attributed to non-variceal bleeding. Comparative outcomes between variceal bleeding (VB) and non-variceal bleeding (NVB) in liver cirrhosis patients with UGIB remain unclear.

AIMS

This study aims to compare the clinical outcomes between patients with variceal bleeding and non-variceal bleeding in patients with liver cirrhosis. We hypothesized that cirrhosis patients with variceal and non-variceal have similar clinical outcomes despite the difference in phenotype.

METHODS

All patients who underwent therapeutic upper endoscopy in our institution from 2017 to 2021 were reviewed. Patients without underlying liver cirrhosis, clinical or endoscopic evidence of UGIB, or incomplete clinical data were excluded. The diagnosis of liver cirrhosis was made based on radiological features, histology, or the presence of gastroesophageal varices or liver stiffness measurement ≥ 10kPa. We compared the rate of 6-week & 1-year mortality, early rebleeding, infection, acute-on-chronic liver failure, and 1-year further decompensating events between VB and NVB. Univariable and multivariable logistic regression analyses were performed to determine the odds ratio of outcome predictors. Subgroup analysis was performed based on cirrhosis etiology and baseline hepatocellular carcinoma.



RESULTS

A total of 218 cirrhosis patients with UGIB (79.8% VB; 20.2% NVB) were included. Patients with NVB were older, had higher usage of anticoagulation, higher Child-Turcotte-Pugh score, worse renal function and had a longer median length of hospitalization.

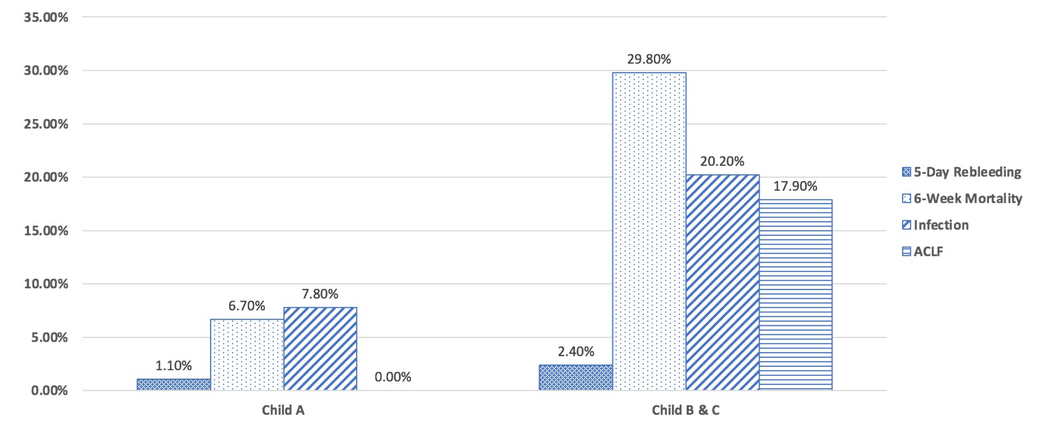
Overall, the 6-week mortality and 1-year mortality rate of the entire cohort was 18.3% and 33.0%, respectively. After adjusting for confounders, VB had similar rates of 6-weeks & 1-year mortality, rebleeding, infection and ACLF, but a higher risk of new-onset ascites at 1-year than NVB (OR: 9.4, 95%CI: 1.9-46.8, p=0.006). The commonest cause of death was cancer (30%) followed by ACLF (20%).

Variables	Variceal bleed (n = 174)	Non-Variceal bleed (n = 44)	p-value
Post-endoscopy[%]			
Rebleed within 5 days	3 (1.7)	5 (11.4)	0.009
6 Week mortality	31 (17.8)	9 (20.5)	0.686
1 Year mortality	53 (30.5)	19 (43.2)	0.109
HE 1 year post AVB	22 (12.6)	7 (15.9)	0.569
New onset ascites	28/118 (23.7)	0/27 (0)	<0.001
New onset HE	13/162 (8)	2/38 (5.3)	0.561
ACLF	15 (8.6)	4 (9.1)	1.000
Infection during admission[%]			
Any	24 (13.8)	13 (29.5)	0.013
Pneumonia	13 (7.5)	8 (18.2)	0.031
SBP	3 (1.7)	1 (2.3)	1.000
UTI	1 (0.6)	1 (2.3)	0.364
Bacteraemia	2 (1.1)	2 (4.5)	0.182
Others	7 (4.0)	1 (2.3)	1.000
Median length of stay[#]	6 (4-10)	12.5 (5-32)	<0.001
Acute Kidney Injury[%]	33 (19.0)	6 (13.6)	0.410

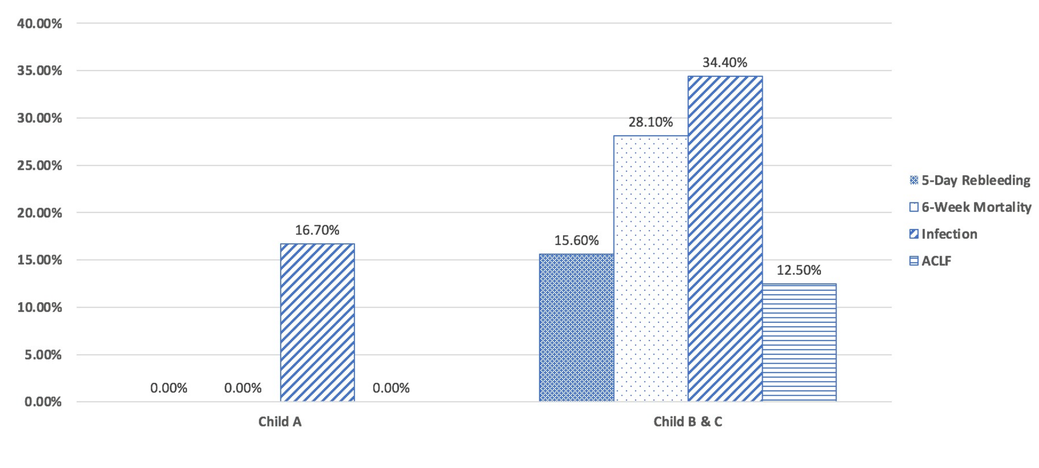
[#]Median (interquartile range); [%]number (percentages)
Abbreviations: HE = Hepatic encephalopathy, AVB = Acute variceal bleeding, ACLF = Acute on chronic liver failure, SBP = Spontaneous bacterial peritonitis, UTI = Urinary tract infection

Clinical outcomes between cirrhosis patients with variceal bleeding and non-variceal bleeding

The 5-day death-adjusted rebleeding risk was 3.3% in the entire cohort. NVB was associated with a higher rate of early rebleeding than VB group (11.4% vs 1.7%, p=0.009). However, the risk of early rebleeding was similar between VB and NVB after adjusting for age, creatinine, Child-Turcotte-Pugh score and the use of anticoagulation. Child-Turcotte-Pugh score remained the independent predictor of early rebleeding in cirrhosis patients with UGIB after adjusting for confounders (OR: 1.53, 95%CI: 1.03-2.23, p=0.037).



Variceal Bleeding



Non-Variceal Bleeding

CONCLUSION

In this cohort of cirrhosis patients with UGIB, we found a similar risk of rebleeding, infection, ACLF and mortality between VB and NVB. However, cirrhosis patients with variceal bleeding had a higher risk of 1-year development of ascites than non-variceal bleeding.