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Disparities in Outcomes Among Cirrhosis Patients With Gastrointestinal Bleeding Managed via Endoscopic Approach

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INTRODUCTION

Cirrhosis patients are prone to gastrointestinal (GI) bleeding due to higher prevalence of varices, and the imbalance involving several coagulation factors that are made by the liver. The aim of our study is to understand the characteristics of cirrhosis patients undergoing Endoscopic Treatment (ET) for GI bleedings, and risk factors that increase their mortality.

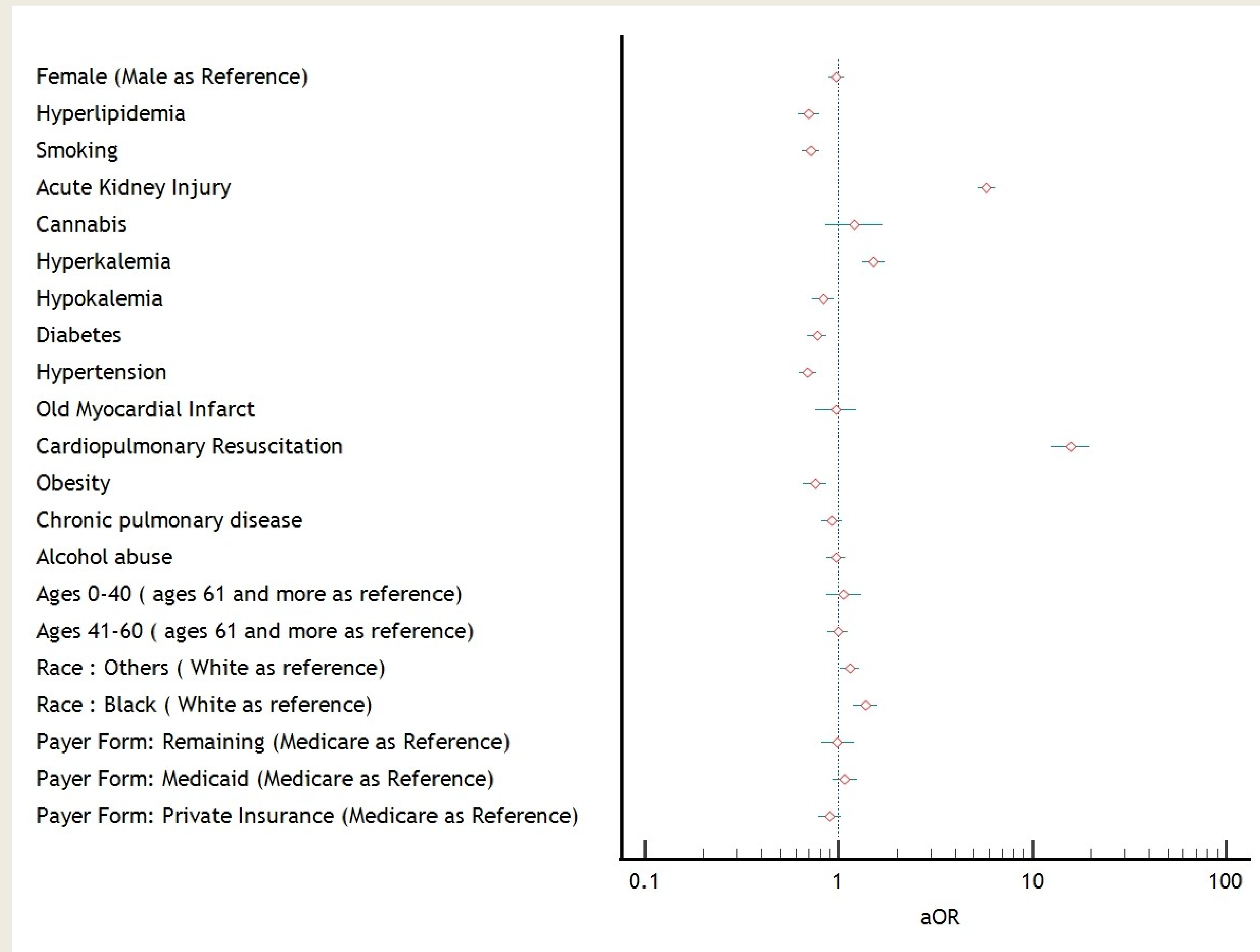
METHODS AND MATERIALS

We explored the 2019 National Inpatient Sample from Healthcare Cost and Utilization Project, Agency for Healthcare Research and Quality, and their partners (<https://www.hcup-us.ahrq.gov/nisoverview.jsp>) for cases of cirrhosis with a procedural code for “Control bleeding in gastrointestinal tract, endo” (classified under endoscopic control of bleeding) (0W3P8ZZ). Patient characteristics were compared using Chi-Square tests and mortality risks were analyzed via multivariate logistic regression.

RESULTS

Our study found 24,635 cases of cirrhosis cases (total of 1,276,330, 1.9%) undergoing ET for GI bleeding. The patients were more likely to be males (59.5%), ages ≥61 (57.5%), White (67.2%), and covered by Medicare (50.8%), while 40.4% were smokers, 38.8% reported Acute Kidney Injury (AKI), 2.0% used cannabis, 10.6% had hyperkalemia, 17.2% with hypokalemia, 37.1% with diabetes, 58.5% with hypertension, 18.0% were obese, 20.5% had chronic pulmonary disease, and 33.2% with alcohol abuse.

Unfortunately, 9.4% patients died. After adjusting for variables, AKI (77.3%, aOR 5.799, p<0.01) and hyperkalemia (19.0%, aOR1.516, p<0.01) showed increased risk of mortality.



Racial differences were also noticed as Blacks (aOR 1.142, p=0.027) and Races other than Whites and Blacks (aOR 1.373, p<0.01) had a higher death risk than Whites. Cardiopulmonary resuscitation was also linked with a poor outcome (aOR 15.821, p<0.01). Meanwhile, hyperlipidemia (aOR 0.702, p<0.01), smoking (0.719, p<0.01), hypokalemia (aOR 0.831, p<0.01), diabetes (aOR 0.773, p<0.01), hypertension (aOR 0.694, p<0.01), obesity (aOR 0.754, p<0.01), showed a reduced mortality risk.

CONCLUSIONS

Our study provides a fresh perspective on various risk factors for mortality among cirrhosis patients undergoing ET for GI bleeding. Physicians should thus be careful and monitor pre and post-procedural occurrences for a timely management to improve the outcomes of these patients.

Characteristics	Patients with cirrhosis undergoing management of GI bleeding via endoscopic approach (n= 24,635) (%)	p-value
Sex		<0.01
Male	59.5	
Female	40.5	
Died During Hospitalization	9.4	<0.01
Age		<0.01
0 to 40	6.3	
41 to 60	36.2	
61 and more	57.5	
Race		<0.01
Black	11.6	
White	67.2	
Others	21.2	
Insurances		<0.01
Medicaid	20.3	
Medicare	50.8	
Private Insurance	20.9	
Other	8.0	
Hyperlipidemia	27.3	0.168
Smoking	40.4	<0.01
Acute Kidney Injury	38.8	<0.01
Cannabis	2.0	<0.01
Hyperkalemia	10.6	0.033
Hypokalemia	17.2	<0.01
Diabetes	37.1	<0.01
Hypertension	58.5	<0.01
Old MI	5.3	0.194
CPR	1.7	0.001
Obesity	18.0	<0.01
Chronic Pulmonary disease	20.5	<0.01
Alcohol Abuse	33.2	<0.01