Assessment of Hospital Readmissions in Decompensated Cirrhosis: Are We Doing Enough?

John Bassett, MD; Shannon Chamberlain, MD; Anastasia Schroeder, MD

University of North Dakota; Sanford Health Fargo

Introduction

Cirrhosis is a widespread, chronic disease. Management can be overwhelming and requires multiple medications and strict adherence to lifestyle modifications[2-4]. Care is highly variable between providers and quality measures are lacking[7-8]. Ultimately, studies have shown that 20-30% of patients with cirrhosis are readmitted within 30 days of discharge[3-6].

Methods

- Single center retrospective analysis between 1/1/2018-12/31/2020
- Adults admitted for decompensated cirrhosis
- Exclusion Criteria
  - <18 years of age
  - Disposition: Death, hospice care, liver transplant
  - End stage malignancy, ESRD, end stage heart failure
  - Admitted between 11/1/17-12/31/17
- Total of 2,205 encounters were evaluated
- Chi-square or Fisher exact tests used to analyze differences between groups for categorical variables
- P-values are 2-sided, statistical significance defined as P-value < .05
- Analyses were performed using SAS software, version 9.4 (SAS Institute, Cary, North Carolina)

Baseline Characteristics	n (%)
Sex	
Female	950 (43)
Male	1255 (57)
Race	
African American/Black	40 (1.8)
American Indian or Alaskan Native	316 (14.5)
Asian	17 (0.8)
Caucasian/White	1803 (82.8)
Pacific Islander	2 (0.1)
Age Groups	
18-35	154 (7)
36-50	438 (20)
51-65	784 (35)
65+	829 (38)
Cirrhosis Etiology	
Alcoholic cirrhosis	780 (35)
Autoimmune[1]	24 (1)
Metabolic[2]	18 (1)
Non-Alcohol Fatty Liver Disease	180 (8)
Viral Hepatitis	121 (6)
Unclassified	1082 (49)
Decompensating Event	
Ascites	1167 (53
Bleeding Esophageal Varices	143 (7)
Hepatic Encephalopathy	939 (43)
Jaundice	100 (5)

1: Autoimmune Cirrhosis to include autoimmune hepatitis, primary sclerosis cholangitis, primary biliary cholangitis
2: Metabolic Cirrhosis to include hemochromatosis, α-1 anti-trypsin deficiency, Wilson's disease

Results

	30-day Readmission n (%)	No Readmission n (%)	P-value
Age Groups			.0007
18-35	20 (13)	134 (87)	
36-50	101 (23)	337 (77)	
51-65	170 (22)	614 (78)	
65+	132 (16)	697 (84)	
Alcoholic Cirrhosis			.0003
No	241 (17)	1184 (83)	
Yes	182 (23)	598 (77)	
Ascites			.0001
No	283 (17)	1256 (83)	
Yes	140 (25)	426 (75)	
Hepatic Encephalopathy			.0344
No	347 (18)	1534 (82)	
Yes	76 (23)	248 (77)	
Spontaneous Bacterial Peritonitis			0.238
No	402 (19)	1732 (81)	
Yes	21 (30)	50 (70)	
Follow up within 30 days post-discharge			.0025
No	324 (21)	1232 (79)	
Yes	99 (15)	550 (85)	

Results (continued)

The mean days until readmission was 12.3 ± 8.43.
The average MELD-Na score was 18.3 ± 7.1

- 37% encounters did not have MELD-Na available

Discussion

Readmission is associated with alcohol use, ascites, SBP, and hepatic encephalopathy.
Follow up with PCP reduces readmission rates.
Limitations:

- Large referral facility may have skewed results
  - Readmission rate if readmitted elsewhere
  - Follow up with PCP at another institution

Conclusion

Importance of education on risk factors to better predict readmissions

- Age
- Alcoholic Cirrhosis
- Ascites, hepatic encephalopathy, or SBP

Severity of disease is often lost on our patients

- Multi-disciplinary approach
- Encouraging follow up within 30 days
- Educate patients to better care for themselves

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