Predictors and Causes of 30-day Readmissions in Primary Biliary Cholangitis: Analysis of the Nationwide Readmission Database

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Introduction

Primary biliary cholangitis (PBC) is an autoimmune disorder that most commonly affects middle-aged women. Cirrhosis, hepatocellular carcinoma, metabolic bone disease, and malabsorption can complicate PBC. In this study we aimed to describe the causes and predictors of 30-day readmissions in patients with PBC.

Methods and Materials

This was an observational retrospective study involving adult patients hospitalized with PBC in the US. We utilized the Nationwide Readmission Databases 2016 to 2019. The first hospitalization for PBC within the year was marked as the index admission. We identified one subsequent hospitalization within 30 days, this was marked as a readmission. We analyzed the rates, causes, and outcomes of the readmitted cohort. We used multivariable cox regression analysis to identify independent predictors of readmissions.

Results

We included a total of 3954 hospitalizations with PBC as the primary diagnosis for admission. 30.5% of the discharged cohort were readmitted within 30 days. Excluding PBC, the most common reasons for readmission were hepatic failure (9.6%) and sepsis (6.7%). Fluid and electrolyte disorders were the most common comorbidities in both the index hospitalization and readmission cohorts. Mortality was higher in the readmitted patients compared to index hospitalizations (10.1% and 4.3%, respectively, $p < 0.001$). Predictors of 30-day readmissions were peptic ulcer disease (aHR 1.64, $p = 0.040$), renal failure (aHR 1.29, $p = 0.038$), weight loss (aHR 1.28, $p = 0.024$), fluid and electrolyte disorders (aHR 1.28, $p = 0.011$), and coagulopathy (aHR 1.22, $p = 0.029$).

Discussion

Patients with PBC have high readmission rates, these readmissions are associated with high inpatient mortality. PBC patients are at risk of liver cirrhosis and malabsorption which explains the high rates of sepsis and electrolyte abnormalities observed in our study. Coagulopathy and weight loss might be reflective of the severity of liver dysfunction and the malabsorptive state, hence, there were associated higher readmission risk. Excellent short and long-term survival have been described following liver transplantation for PBC patients. However, recent data demonstrated that they have higher wait-list mortality among patients listed for liver transplantation.

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