

Impact of Pyogenic Liver Abscess (PLA) on Mortality and Hospitalization Cost Amongst Patients With or Without History of Alcohol Abuse (AA): 4-Year Retrospective Study Using National Inpatient Sample (2016-2019)

Noor Mualla, MD, MPH; Sriram B. Chowdary, MD; Dhruv Lowe, MD, Abhinav Goyal, MD; Soohwan Chun, MD; Kishore Kumar, MD; Divey Manocha, MD; Duane Deivert, MD; Anil Singh, MD; Nikitha Dalavai, MBBS. Geisinger Health System.

Introduction

Liver is the most common site for intra-abdominal abscess. Pyogenic liver abscess is more common in men compared to women. Risk factors include diabetes mellitus and chronic hepatobiliary disease. Alcohol abuse is known to cause bone marrow suppression and compromised immune system. Limited data are available regarding clinical outcomes in patients with history of alcohol use disorder who are admitted with pyogenic liver abscess.

Methods

Using National Inpatient Sample databases from 2016 to 2019. We identified patients presenting with pyogenic liver abscess, the population were then divided based on the presence and absence of alcohol use disorder using appropriate ICD-10-CM/PCS codes. STATA 16.0 software was used for the analysis. Pearson's Chi-Square test was used to analyze categorical variable, whereas the student t-test was used to analyze continuous variables. Univariate and multivariate logistic regression was used to adjust for potential confounders. Primary outcome was in hospital mortality due to Pyogenic liver abscess in patients with alcohol use disorder.

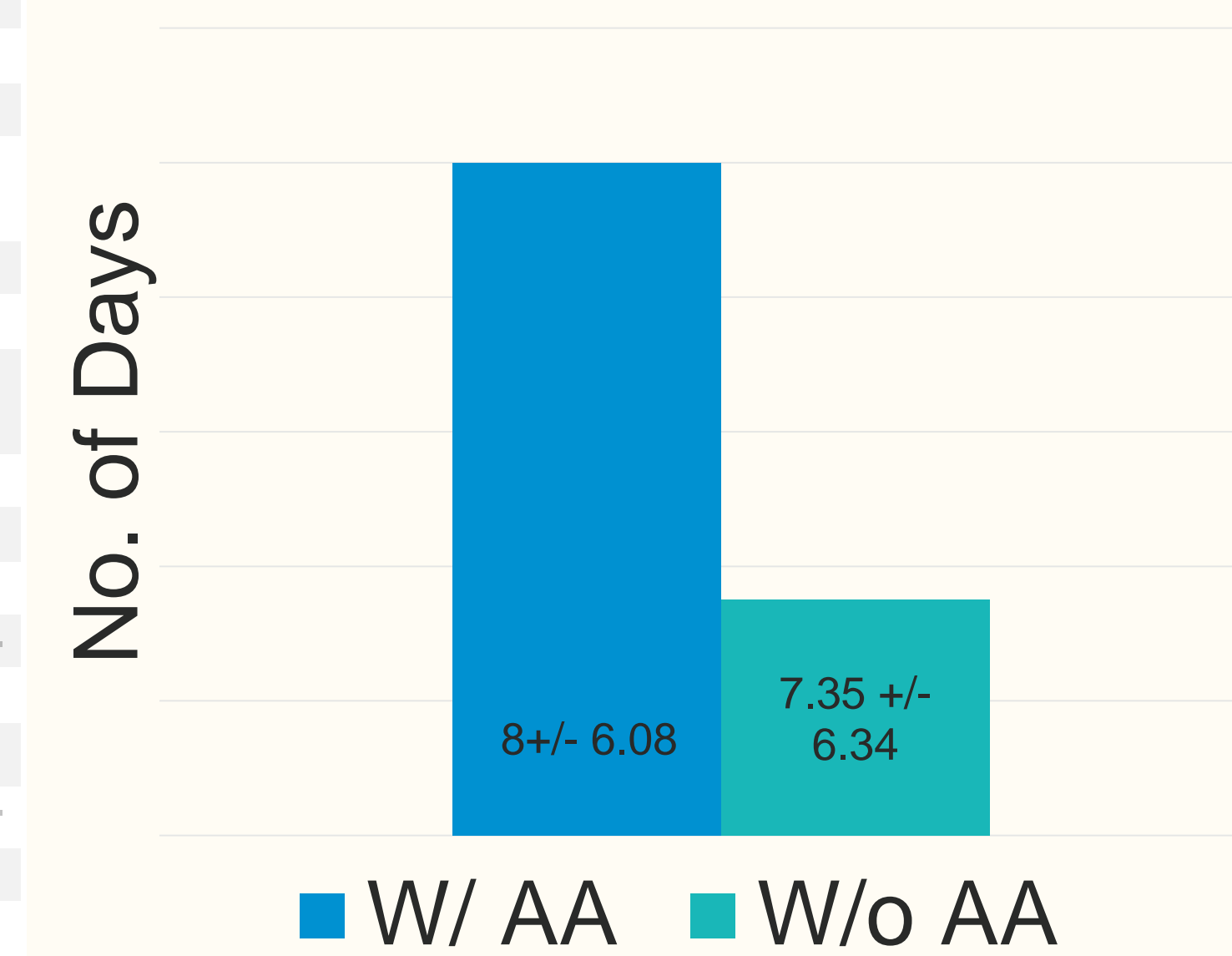
Results

TABLE 1: IN-PATIENT OUTCOME COMPARISON OF PATIENTS with history of alcohol abuse PRESENTING WITH PYOGENIC LIVER ABSCESS

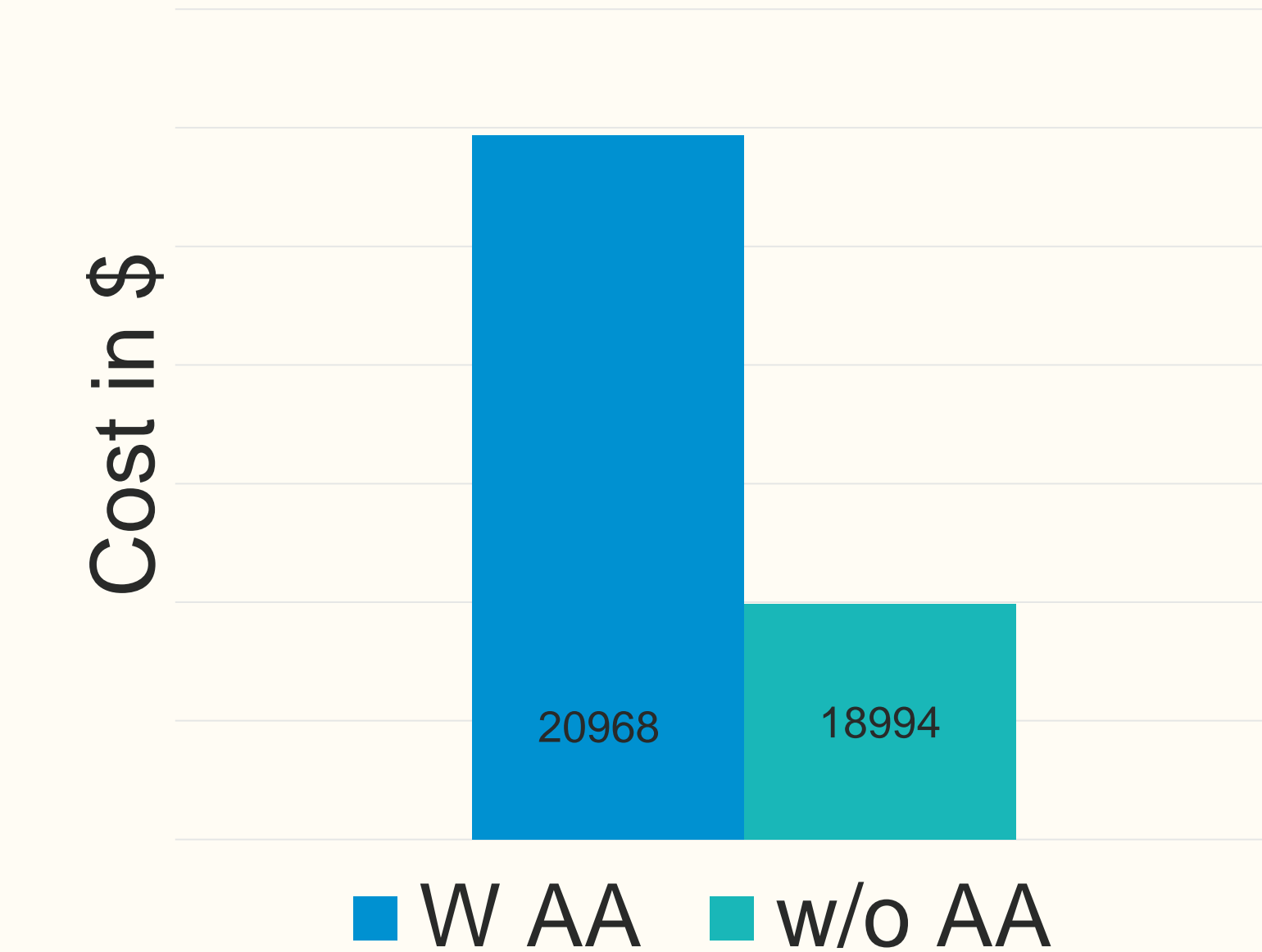
	PLA With AA, N (%)	PLA Without AA, N (%)	P value
TOTAL	1090(8.92)	18740(91.07)	
DEMOGRAPHICS			
MEAN AGE (YEARS)	57.65±11.45	61.47±15.65	
GENDER (FEMALE) (%)	205 (18.81)	7404 (41)	<0.000
COMORBIDITIES			
VARICES WITH OUT BLEED	50(4.59)	141(0.75)	<0.001
ASCITES	155(14.22)	1130(6.03)	<0.001
PORTAL HYPERTENSION	105(9.63)	300(1.6)	<0.001
HEPATOCELLULAR CARCINOMA	25(2.29)	160(0.85)	0.0302
LIVER DISEASE	400(36.7)	2551(13.61)	<0.001
COAGULOPATHY	185(16.97)	1525(8.14)	<0.001
RENAL FAILURE	80(7.34)	2251(12.01)	0.0390
HYPOTHYROIDISM	60(5.5)	2206(11.77)	0.0049
OBESITY	70(6.42)	2539(13.55)	0.0026
ETHNICITY			
WHITE (%)	672(61.61)	12337(65.83)	0.031
NON-WHITE (%)	418(38.39)	6403(34.17)	
CHARLSON COMORBIDITY INDEX			
0-2	790(72.48)	13294(70.94)	<0.001
3 OR >3	300(27.52)	5446(29.06)	
PRIMARY OUTCOME			
MORTALITY (%)	0.511	0.067-3.86	<0.001
SECONDARY OUTCOMES			
	Mean		P value
LENGTH OF STAY (DAYS)	8±6.08	7.35±6.34	<0.001
TOTAL CHARGE (US\$)	20968	18994	<0.001

Amongst total of 19,830 patients admitted with pyogenic liver abscess, 1,090 patients had history of alcohol use disorder and 18,740 patients did not. Both groups consisted predominantly of white male patients. Mean LOS was higher in alcohol use disorder group (8±6.08 days) than in non-alcohol use disorder group (7.35±6.34 days) (P=< 0.001). Mean total hospitalization charges were higher in AUD group (\$ 20,968) than in the non-AUD group (\$ 18,994) (P= < 0.001)

LENGTH OF STAY



TOTAL CHARGES



Conclusions

Patient with Pyogenic liver abscess with alcohol use disorder history had higher resource utilization, but less odds of mortality.