

Effect of Atrial Flutter on Alcoholic Cardiomyopathy

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Abstract : Alcoholic cardiomyopathy (ACM) is a type of acquired cardiomyopathy caused by chronic alcohol consumption. Frequently ACM is associated with arrhythmias such as atrial flutter. Our aim was to characterize the patient demographics and investigate the effect of atrial flutter (AF) on ACM. This was a retrospective cohort study using the Nationwide Inpatient Sample database to identify admissions in adults with principal and secondary diagnoses of alcoholic cardiomyopathy and atrial flutter from 2019. Multivariate linear and logistic regression models were adjusted for age, gender, race, household income, insurance status, Elixhauser comorbidity score, hospital location, bed size, and teaching status. The primary outcome was all-cause mortality, and secondary outcomes were the length of stay (LOS) and total charge in USD. There was a total of 21,855 admissions with alcoholic cardiomyopathy, of which 1,635 had atrial flutter (AF-ACM). Compared to Non-AF-ACM cohort, AF-ACM cohort had fewer females (4.89% vs 14.54%, $p<0.001$), were older (58.66 vs 56.13 years, $p<0.001$), fewer Native Americans (0.61% vs 2.67%, $p<0.01$), had fewer smaller (19.27% vs 22.45%, $p<0.01$) & medium-sized hospitals (23.24% vs 28.98%, $p<0.01$), but more large-sized hospitals (57.49% vs 48.57%, $p<0.01$), more Medicare (40.37% vs 34.08%, $p<0.05$) and fewer Medicaid insured (23.55% vs 33.70%, $p<0.001$), fewer hypertension (10.7% vs 15.01%, $p<0.05$), and more obesity (24.77% vs 16.35%, $p<0.001$). Compared to Non-AF-ACM cohort, there was no difference in AF-ACM cohort mortality rate (6.13% vs 4.20%, $p=0.0998$), unadjusted mortality OR 1.49 (95% CI 0.92-2.40, $p=0.102$), adjusted mortality OR 1.36 (95% CI 0.83-2.24, $p=0.221$), but there was a difference in LOS 1.23 days (95% CI 0.34-2.13, $p<0.01$), total charge \$28,860.30 (95% CI 11,883.96-45,836.60, $p<0.01$). In patients admitted with ACM, the presence of AF was not associated with a higher all-cause mortality rate or odds of all-cause mortality; however, it was associated with 1.23 days increase in LOS and a \$28,860.30 increase in total hospitalization charge. Native Americans, older age and obesity were risk factors for the presence of AF in ACM.

Keywords : alcoholic cardiomyopathy, atrial flutter, cardiomyopathy, arrhythmia

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