Methods: From a database of 18,003 cardiomyopathy patients treated at a tertiary care center between 2011 and 2017, 389 (2.2%) were admitted to the hospital with CA and constituted our study cohort.

Results: Of the 389 cardiomyopathy patients admitted with CA, 362 (93%) had documented rhythm: MVT 29, PVT 29, Unspecified VT 27, VF 145, PEA 69, Asystole 40, and unspecified bradyarrhythmia 23. Compared to patients with bradyarrhythmia, those with tachyarrhythmia were less frequently men (31% vs 56%, p = 0.027), and more likely to have electrolyte abnormalities (27% vs 5%, p < 0.001), new cardiac ischemia (29% vs 10%, p < 0.001), frequent PVCs (12% vs 0%, p < 0.001), be prescribed new anti-arrhythmic drugs (74% vs 24%, p < 0.001), be implanted with a new defibrillator during the index hospitalization (35% vs 4%, p < 0.001), but similar rates of utilization of advanced heart failure options (48% vs 50%, p = 0.78). Over a median follow-up of 2.8 years, patients with shockable rhythms had better survival (HR = 1.49, p = 0.002, Figure).

Conclusion: In the context of cardiomyopathy, a minority of patients are admitted with CA. Clinical characteristics, treatment options vary significantly between patients with shockable versus non-shockable rhythms. The former group has a significantly lower mortality.

Results: Of 755 cases reviewed, 451 were determined to meet inclusion criteria for our study. Thirty-three patients (7.3%) developed HF symptoms while maintaining sinus rhythm (SR) after successful CV. Symptoms were reported an average of 5.6 days following CV (range 0-17 days, SD 4.71). Eighteen of these 33 patients (54.5%) had post CV echocardiograms with an average ejection fraction of 54% (range 15-70%, SD 13.54). Univariate risk factors for development of HF included: increased BMI (32.7 vs 38.0, P < 0.001), increased PASP (34.2mmHg vs 43.6mmHg, P = 0.003), AAD use (33% vs 52%, P = 0.031), CPAP use (12% vs 24%, P = 0.05), hypertension (67% vs 85%, P = 0.03), pulmonary hypertension (5% vs 21%, P < 0.001), valve disease (17% vs 36%), P = 0.008, and prior HF hospitalization (23% vs 55%, P < 0.001). Following a multivariate stepwise logistic regression model, prior HF hospitalization (OR 3.83, 95% CI 1.79-8.23), BMI (OR 1.06, 95% CI 1.02-1.11), valve disease (OR 2.53, 95% CI 1.13-5.65), and AAD use (OR 2.00, 95% CI 0.94-4.28) remained significant risk factors.

Conclusion: From our large dataset of CV for AF or AFL, we found 7.3% of patients suffered HF despite maintenance of SR. A multivariate logistic regression model identified several clinical features and biomarkers as risk factors for HF post CV, including elevated BMI, valve disease, previous HF hospitalization, and prior AAD use. In our future work, we will expand this dataset to help antecedent identification of at risk persons to initiate preventative treatment strategies.

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PREVALENCE AND RISK FACTORS ASSOCIATED WITH DECOMPENSATED HEART FAILURE AFTER SUCCESSFUL ELECTIVE CARDIOVERSION FOR ATRIAL FIBRILLATION AND ATRIAL FLUTTER

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Background: Acute pulmonary edema following cardioversion (CV) of atrial fibrillation (AF) or atrial flutter (AFL) has been previously reported. Mechanisms including left atrial mechanical failure have been postulated, yet no studies to our knowledge have revealed the etiology and no predictive clinical biomarkers are available.

Objective: To determine the incidence of and risk factors for decompensated heart failure (HF) after successful AF and AFL CV.

Methods: Seven hundred fifty-five patients underwent successful elective CV at our institution from July 1, 2018 to May 20, 2019. Patients presenting in arrhythmias other than AF or AFL, as well as those who reverted within 30 days, were excluded. Medical records of the remaining patients were reviewed before and after CV.

Results: Of 3,030 recordings, FAV increased as ACL decreased (p = <.001, R2 = 0.09) and as R-RC decreased (p = <.001, R2 = 0.35). FAV was significantly higher in AF (3.5 ± 1.0) than in AFL (1.5 ± 0.5), p < .001 or in AT (2.0 ± 0.9), p < .001. Box plots show mean ACL does not differentiate any rhythm while mean R-RC enables quantitative distinction between AF and organized rhythms of AFL/AT.

Conclusion: Flow angle variability as an indicator of stability of electrographic flow directionality over time shows significant