Rates and causes of readmissions following index admissions for Takotsubo syndrome-a meta-analysis of 118,941 index hospitalizations

R. Desai[1], S. Sachdeva[2], S. Singh[3], S.K. Rajan[4], A.S. Shaik[5], M. Haider[6], H.K. Fong[7], K. Gangani[8], R. Sachdeva[9], G. Kumar[10]

[1]Atlanta Veterans Affairs Medical Centre, Division of Cardiology, Atlanta, United States of America; [2]Lady Hardinge Medical college and hospitals, Delhi, India; [3]Amsterdam University Medical Center, Department of Clinical Epidemiology, Biostatistics and Bioinformatics, Amsterdam, Netherlands (The); [4]Medical City Plano, Department of Medicine, plano, Texas, United States of America; [5]Silver Lane Medical Centre, Department of Medicine, East Hartford, Connecticut, United States of America; [6]New York-Presbyterian Hospital, Department of Internal Medicine, New York, United States of America; [7]UC Davis Medical Centre, Division of Cardiovascular Medicine, Sacramento, United States of America; [8]Texas Health Arlington Memorial Hospital, Department of Internal Medicine, Arlington, Texas, United States of America; [9]Morehouse School of Medicine, Atlanta VA Medical centre & Medical College of Georgia, Division of Cardiology, Augusta,Georgia, United States of America; [10]Emory University & Atlanta VA Medical Centre, Division of Cardiology, Atlanta, Georgia, United States of America

Background: Rising trends in takotsubo syndrome (TTS)-related complications warrant data to identify the rate, causes and predictors of readmission on a large scale. We conducted the first-ever meta-analysis to evaluate the pooled rate of short-term and long-term readmissions after index TTS admissions.

Methods: PubMed/Medline, EMBASE and SCOPUS databases were systematically reviewed to find studies through October 2019 reporting rates and causes of readmission following index TTS admissions. Random effects models were used to estimate pooled rates and causes of readmissions and I2 statistics were used to report inter-study heterogeneity.

Results: A total of 16 cohorts with 118,941 TTS index admissions (mean age 65–75 yrs; female >85%, median follow-up 272.5 days) revealed a 16.6% [95% CI-13.2%-20.3%, I2=99%] pooled rate of readmission. Short-term and long-term pooled readmission rates are displayed in Fig.1. The readmission rate was higher in cohorts with young patients (<70 vs. >70 yrs), smaller sample size (n<100 vs. n>100) and single-centres vs. multi-centres. Studies published from the USA (16.4% vs. 14.9%) had a higher readmission rate as compared to Italy. The most frequent causes were cardiac (40.6%), respiratory (15.7%) and renal (7.0%). Among readmissions with cardiac diagnoses, heart failure was most common (40.1%).

Conclusions: This global meta-analysis revealed that the pooled rate of readmission following index TTS admissions was ~17% and causes were mainly cardiac or respiratory.
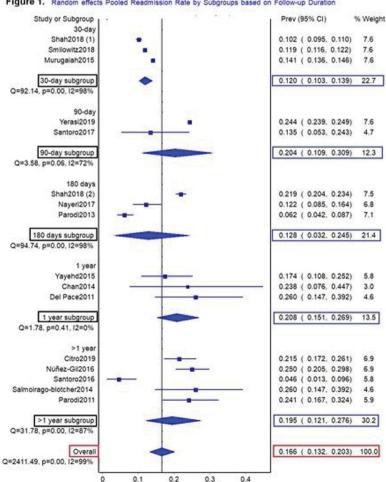
Figure 1. Random effects Pooled Readmission Rate by Subgroups based on Follow-up Duration