

Can previous treatment with beta-blockers attenuate myocardial dysfunction in patients with Tako-Tsubo cardiomyopathy?

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INTRODUCTION: Tako-Tsubo cardiomyopathy (TTC) is a clinical condition characterized by acute and generally reversible myocardial dysfunction. It is usually triggered by significant emotional or physical stress. Catecholamine activation of adrenoceptors has been recognized as a primary trigger of pathophysiological changes in TTC¹. Previous data showed no evidence that cardioprotective drugs such as beta-blockers (BB) decrease reoccurrence of TTC². We sought to evaluate whether chronic BB therapy attenuates myocardial dysfunction and type of wall motion abnormalities (WMA) in patients presenting with TTC.

METHODS: We retrospectively analyzed medical record data of patients admitted with TTC from January 2011 to March 2015. Left ventricular ejection fraction (LVEF), location and extent of MWA were compared between patients previously treated with BB and patients without a BB in therapy at admission.

RESULTS: Twenty-one patient with TTC was identified. Nine patients were BB users and eleven patients were BB non-users. Information on previous BB therapy was not available for one patient who was excluded from the analysis. There was no significant differences in demographic and clinical data between study groups. No statistically significant difference in LVEF and forms of WMA was found between study groups (0.425 and 1.000, respectively) (Table 1).

CONCLUSION: Results indicate that previous use of BB does not attenuate the severity of myocardial dysfunction nor the type of WMA in patients presenting with TTC. These results warrant further investigation and confirmation on a larger number of patients. Time of patient presentation and echocardiographic examination should also be considered in the analysis.

TABLE 1. Patients' data.

	BB users (N=9)	BB non-users (N=11)	p
Age, mean (min-max)	63.56 (33-79)	60.09 (45-76)	0.617
Women, n	8	7	0.319
Type of WMA, n			
apical	5	6	1.000
apical and midventricular	4	5	
midventricular	0	0	
basal	0	0	
LVEF, mean (SD)	47.22 (14.1)	42.27 (12.9)	0.425

BB – beta-blocker; LVEF – left ventricular ejection fraction; SD – standard deviation; WMA – wall motion abnormality

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LITERATURE

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