Distinctive characteristics among MINOCA and Takotsubo patients and their prognostic value in a multicenter prospective cohort


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Background/Introduction: In the acute care setting, the working diagnosis of MINOCA exhibits increasing recognition and includes a broad spectrum of conditions, most of them yet not adequately understood. Takotsubo syndrome (TTS) represents a significant proportion of such cases and despite its predominance on female gender as well as its imaging characteristics on the typical apical form it is not easily distinguishable from other MINOCA causes without the contribution of cardiac magnetic resonance (CMR).

Purpose: The aim of our study is to investigate for distinctive characteristics related to the index event among MINOCA cases from a multi-center prospective cohort with a mean follow up period of 18 months.

Methods: We divided our study population (n=74) into TTS (n=30) and non-TTS (n=44) according to multimodality imaging results. Information regarding the index event (Sep 2019-Feb 2021) were retracted from the medical notes.

Results: CMR results led to a post-discharge diagnosis reconsideration in 12 cases (16.2%). Female gender (n=29; 96.7% vs n=22; 50%, P < 0.001), older age (mean age 66±11 vs 59±11, P=0.04) and history of hypertension (n=21; 70% vs n=19; 44.3%, p=0.035) were more frequent in TTS group. There was no statistically significant difference in body mass index, baseline renal function, history of dyslipidemia, diabetes and smoking between the two groups. During the index event, peak troponin levels 576 pg/ml (IQR: 184–9915) vs 767 pg/ml (IQR: 47–47000), P<0.005], were lower in the TTS group, whereas NSTEMI presentation was the commonest among all patients. Angina was the dominant symptom for both groups. However, severe angina expressed as more than 2 episodes within 24 hours was more frequent among the TTS population (n=19; 65.5% vs n=10; 22.7%, P<0.001). TTS probability assessed with the INTERTAK score was higher among the TTS group (68±10 vs 38±21, P<0.001). In hospital major cardiovascular events incidence was higher in the non-TTS group (n=2 vs n=11, P=0.06). Multivariate analysis revealed that the presence of severe angina (OR, 8.1, 95% CI: 1.173–56.157, P=0.038) is highly predictive of TTS in the acute care setting even independently of INTERTAK probability.

Conclusions: These preliminary results indicate that the presence of several anginal attacks may strengthen the predictive value of the INTERTAK score during MINOCA evaluation in the acute setting. Confirmation in a larger population is warranted.

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