Anxiety in MINOCA patients according to latest definitions

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Background: Anxiety is a global public health problem affecting the lives of large numbers of patients (pts) and their families. Some studies suggest that pts with MINOCA (myocardial infarction with non-obstructive coronary arteries) have more anxiety levels than the rest of pts with myocardial infarction (MI). The aim of this study is to compare anxiety levels between pts with MINOCA and the rest of MI pts using a validated scale: The State Trait Anxiety Inventory (STAI).

Methods: An analytical and observational study was developed in a University Hospital. We analysed the clinical data of all consecutive MI pts admitted to our centre from July 2017 to December 2020. Inclusion criteria were determined by the 4th Universal Definition of Myocardial Infarction and the latest definitions of MINOCA according to the 2020 ESC Guidelines. A group of experts reviewed all MINOCA cases in order to exclude those who did not fulfil the selection standards and takotsubo syndrome and myocarditis pts were excluded.

STAI questionnaire was completed by each patient during admission. Data collected included "trait anxiety", that refers to relatively stable individual differences in anxiety-proneness, whereas "state anxiety" is a temporary emotion due to a particular situation (hospitalization in this case). Total score in each subgroup ranges from 0 to 60 points, where a higher score correlates with major anxiety levels.

Follow up analysis included major adverse cardiovascular events (MACE: cardiovascular readmission, myocardial reinfarction, stroke and death from any cause). Survival analysis is based on Cox regression. Median follow-up was 25±23 months.

Results: From a total of 413 consecutive MI pts, 243 (58.8%) completed the questionnaire. Of them, 32 (13%) were MINOCA pts. There were no significant differences in trait anxiety between both groups (MINOCA mean value 21±14 points vs rest of MI 19±10 points, p=0.9), nor in state anxiety (20±14 vs 19±10 points, p=0.8). There were also no significant differences when data were analysed by percentiles: 37.5% of MINOCA pts were below P25 and 28% of the rest of MI were also in this percentile. At the other end of the scale, 31.3% of MINOCA pts were above P75, as well as 22.7% of the rest of MI pts (table 1). During follow up, punctuation in trait anxiety in MINOCA pts showed no differences in MACE (HR 1.01, CI 95% (0.9–1.07)), nor did punctuation in state anxiety (HR 1.01, CI 95% (0.9–1.06)). This was also observed in the rest of MI pts: trait anxiety HR 1.01, CI 95% (0.9–1.04) and state anxiety HR 0.9, CI 95% (0.9–1.01).

Conclusion: In this study, there were no significant differences in anxiety levels between MINOCA pts and the rest of MI pts. The lack of takotsubo pts in this study reflect real data from MINOCA according to the latest definitions. Subjective emotions could lead to mistaken findings, making it necessary to determine emotional disorders with validated and objective tools.

	TRAIT ANXIETY				STATE ANXIETY			
	P25	P25-50	P50-75	P>75	P25	P25-50	P50-75	P>75
MINOCA patients	37.5%	18.8%	12.5%	31.3%	34.4%	21.9%	15.6%	28.1%
Rest of MI patients	28%	22.7%	26.5%	22.7%	23.5%	31%	23.9%	21.6%

Table 1. Percentile values of STAI.