

Insomnia incidence in myocardial infarction with and without obstructive coronary arteries

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Background: Insomnia can either be a primary problem or it may be associated with other psychological conditions, ranging from anxiety to depression. Some studies have reported that pts with MINOCA (myocardial infarction with non-obstructive coronary arteries) have more emotional disorders than the rest of pts with myocardial infarction (MI). However, a relationship with insomnia has not been yet described.

The aim of this study is to compare insomnia levels between patients with MINOCA and the rest of MI patients using a validated scale: Insomnia Severity Index (ISI) (Figure 1).

Methods: We performed an analytical and observational study in which all consecutive MI pts from July 2017 to December 2020 were recruited. We used 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 criteria. Therefore, takotsubo syndrome and pts with myocarditis were excluded.

ISI questionnaire was completed by each patient during admission. Total score ranges from 0 to 28 points. Depending on the final score, pts could have no clinically significant insomnia (0–7 points), subthreshold insomnia (8–14 points), clinical insomnia of moderate severity (15–21 points) and severe clinical insomnia (22–28 points).

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, 244 (59%) completed the questionnaire. Of them, 32 (13%) were MINOCA pts. There were no statistically significant differences in insomnia levels between both groups (Table 1). Even in absolute terms, both groups presented same mean levels: MINOCA mean value 7.6±6 points vs rest of MI 7.7±6 points, p=0.8. When separated by sex, women in the MI group had higher punctuation levels than men (24% of moderate clinical insomnia in women vs 8.9% of men, p=0.03). Punctuation in ISI questionnaire showed no significant differences in MACE in MINOCA pts (HR 0.9, CI 95% (0.7–1.2)), nor in the rest of MI pts (HR 0.9, CI 95% (0.9–1.03)).

Conclusions: Levels of insomnia were similar in MINOCA pts than in the rest of MI pts. Follow up showed no differences in MACE between both groups regarding insomnia according to ISI. Women had higher punctuation levels than men, with more clinical insomnia in a moderate grade. Subjective emotions could lead to mistaken findings, making it necessary to use ISI questionnaire or other objective validated scales to correctly study some disorders and their distribution in different populations.

	No clinically significant insomnia	Subthreshold insomnia	Clinical insomnia (moderate severity)	Clinical insomnia (severe)
%MINOCA patients	59.4%	21.9%	18.8%	0%
%Rest of AMI patients	54.7%	30.7%	12.7%	1.9%

Table 1. Insomnia severity index

For each question, please CIRCLE the number that best describes your answer.

Please rate the CURRENT (i.e. LAST 2 WEEKS) SEVERITY of your insomnia problem(s).

Insomnia Problem	None	Mild	Moderate	Severe	Very Severe
1. Difficulty falling asleep	0	1	2	3	4
2. Difficulty staying asleep	0	1	2	3	4
3. Problems waking up too early	0	1	2	3	4

4. How SATISFIED/DISSATISFIED are you with your CURRENT sleep pattern?

Very Satisfied Satisfied Moderately Satisfied Dissatisfied Very Dissatisfied

0 1 2 3 4

5. How NOTICEABLE to others do you think your sleep problem is in terms of impairing the quality of your life?

Not at all Noticeable A Little Somewhat Much Very Much Noticeable

0 1 2 3 4

6. How WORRIED/DISTRESSED are you about your current sleep problem?

Not at all Worried A Little Somewhat Much Very Much Worried

0 1 2 3 4

7. To what extent do you consider your sleep problem to INTERFERE with your daily functioning (e.g. daytime fatigue, mood, ability to function at work/daily chores, concentration, memory, mood, etc.) CURRENTLY?

Not at all Interfering A Little Somewhat Much Very Much Interfering

0 1 2 3 4

Figure 1. ISI Questionnaire