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Outcomes in patients with acute myocardial infarction and a history of illicit drug use: a nationwide analysis

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Background: Several reports suggest that illicit drug use may be a major cause of acute myocardial infarction (AMI) independently of smoking habits, and associated with a poorer prognosis.

Purpose: We sought to determine the frequency of history of illicit drug use in an AMI population and its impact on short- and mid-term prognosis.

Methods: Based on the administrative hospital-discharge database, we collected information for all patients treated with AMI between 2010 and 2018 in France. We identified patients with history of illicit drug use and the adverse outcomes were investigated during follow-up.

Results: Among 797,212 patients with ST-segment elevation myocardial infarction (STEMI) or non-STEMI (mean age 69 years, 66% male), 3827 patients (0.5%) had a known history of illicit drug use (cannabis, cocaine or opioid). Patients with illicit drug use were younger and had less comorbidities. They presented more frequently with STEMI and anterior localization compared to those with no history of illicit drug use. In univariate analysis, patients with illicit drug use had lower short-term mortality rates compared to those without history of illicit drug use: 4.9% vs 10.1% at one month (p<0.0001), respectively. However, this might be attributed to a younger age at the time of presentation. Using logistic multivariable analysis with adjustment on age, gender, other cardiovascular and non-cardiovascular comorbidities, type and localisation of MI and procedures of revascularization, history of illicit drug use was associated with a non-significant higher risk of death at one year (adjusted odds ratio OR 1.12 95% CI 0.98–1.29). This trend was supported by a significantly higher risk of death at one year in patients with a history of opioid use (OR 1.27 95% CI 1.04–1.29, p=0.01).

Conclusion: In a large and systematic nationwide analysis of patients with AMI, history of illicit drug use was associated with a non-significant higher overall odds of mortality, which was significant among those with opioid use.