

Cocaine induced myocardial infarction - myth or reality?

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Background: In 2018 more than 17 million European people (5.1 % of 15- to 64-year-olds) are reported to have used cocaine at least once in their life, and 3.5 million are estimated to have done so in the last year (1.1 % on average) [1]. In Lithuania during the five years from 2006–10 a total of 8.9 % (127 of 1 423) intoxications in drugs and psychotropic substances involved cocaine [2,3].

Case presentation: A 37-year-old male was brought to our emergency department with sudden onset of retrosternal chest pain radiating to the all chest cavity and lasting for 30 minutes. Paramedics had given him aspirin and diazepam tablets. On arrival to hospital patient blood pressure was 116/61 mmHg, heart rate 45 beats/minute and his lung sounds were normal. He had a body mass index 24.7 kg/m² and smoked 6-7 cigarettes per day. There was no personal or family history of cardiac disease, he was neither diabetic nor hypertensive, but had an increased serum cholesterol level 6.08 mmol/l and low-density lipoprotein 4.22 mmol/l for which he was not on treatment. ECG demonstrated ST elevation in inferior and lateral leads (ST elevation above 0.5-1mm in II, III, aVF and V3-6, V7-9) and patient was admitted directly for cardiac catheterisation. The serum Troponin-I level was recorded at 1392.6 ng/L (normal range <14 ng/L on high-sensitivity Troponin-I), confirming the diagnosis of myocardial infarction. Coronary artery angiography was performed within 1 h of admission, but there were no residual stenosis, which could have represented mild coronary artery disease or persistent vasospasm. As there was no evidence of atherosclerotic disease percutaneous coronary intervention was not performed and patient was transferred to cardiology reanimation and intensive care unit for comprehensive examination. On further questioning patient confessed, that he had taken cocaine by inhalation a day ago. Blood tests, including haematology, biochemistry and gases were all within ranges. Radiological imaging revealed normal chest X-ray.

Conclusion: Myocardial infarction is rare, but possibly deadly consequence of cocaine consumption. Although it is difficult to determine incidence of cocaine associated MI because of lack of diagnostic algorithms, we hope that this case will contribute to raising public awareness about cocaine use and its impact to our health.

[1] European Monitoring Centre for Drugs and Drug Addiction (2018), European Drug Report 2018: Trends and Developments, Publications Office of the European Union, Luxembourg. pp. 17-96.

[2] EMCDDA (2014), Emergency health consequences of cocaine use in Europe. A review of the monitoring of drug-related acute emergencies in 30 European countries, Technical report, European Monitoring Centre for Drugs and Drug Addiction, Lisbon.

[3] de Millas, W, Haasen C, Reimer J, Eiroa-Orosa, F. J. and Schaefer I. (2010), 'Emergencies related to cocaine use: a European multicentre study of expert interviews', European Journal of Emergency Medicine, 17(1), pp. 33–36.