

Cardiogenic shock due to occlusion of left main coronary in a cocaine user

To the Editor,

Cocaine use has been related to the occurrence of myocardial infarction in young patients without other coronary risk factors. Acute myocardial infarction (AMI) secondary to the occlusion of the left main coronary artery (LMCA) in a cocaine user is infrequent, with sudden death being the most common form of presentation.

We present the clinical case of a 38-year-old male patient with an ST-segment elevation myocardial infarction complicated by cardiogenic shock because of acute occlusion of the LMCA following cocaine abuse.

He had a history of smoking and had recently used cocaine. He visited the emergency department of another institution with angina lasting for 5 h. The electrocardiogram (ECG) showed a heart rate of 120 bpm, complete RBBB with ST-segment elevation in lead aVR, lead I, aVL, and V2 to V6. The patient evolved with cardiogenic shock requiring mechanical ventilation (MV) and inotropic support. Considering the diagnosis of STEMI complicated with cardiogenic shock, the patient underwent coronary angiography. An intra-aortic balloon pump was placed before the procedure. The coronary angiography demonstrated a total acute thrombotic occlusion of the LMCA, and PPCI was performed. After the predilatation of the total occlusion with a balloon, TIMI-III flow was restored. A stent was successfully implanted.

After the procedure, the patient developed multiorgan failure (acute renal failure, liver failure, respiratory distress). Twenty-four hours later, he presented with ventricular tachycardia–ventricular fibrillation refractory, and the patient died.

In the present case, cocaine was presumed to be instrumental in provoking the AMI (patient with AMI was younger without classic risk factors). Cocaine stimulates the sympathetic nervous system by inhibiting catecholamine reuptake at sympathetic nerve terminals. Among them, include AMI and where the etiology is multifactorial (vasospasm, coronary dissection, atherosclerosis-plaque rupture, increased the determinants of myocardial oxygen consumption) (1).

Secondly, an acute obstruction of the LMCA is encountered at angiography approximately in only 0.5% of AMI cases (2), and it is associated with cardiogenic shock (2-4) as well as sudden death (5).

In patients with cardiogenic shock at admission, mortality was up to 32%–54% (3, 4). In patients with cardiogenic shock and multiorgan failure, mortality was up to 75% (4).

Coronary artery bypass graft surgery (CABG) is the standard revascularization strategy. However, normal blood flow in the infarct-related artery should be restored as rapidly and completely as possible; the high rate of mortality and of postoperative complications in patients with cardiogenic shock makes primary coronary intervention an alternative therapy. Percutaneous coronary intervention allows a rapid reperfusion of the vessel with a survival rate of 89% at 1 year (3, 4).

Among the variables associated with adverse outcomes, our patient presented with cardiogenic shock and underwent reperfusion therapy after 12 hours of symptom onset and multiorgan failure.

In conclusion, the etiology of AMI in patients with cocaine use is multifactorial. The occlusion of the LMCA is associated with high mortality secondary to cardiogenic shock. Survival depends on early reperfusion, and the appropriate strategy should be chosen based on the patient's hemodynamic status.

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An alternative malpractice system suggestion for Turkey: Patient compensation system

It is dangerous to be right in matters where established men are wrong

~ **Voltaire** ~

To the Editor,

Physicians and patients have started to realize that Turkish medical laws that enforced high medical malpractice compensation fines and sentenced physicians to imprisonment because of unintentional negligence are ruining the medical profession and healthcare system. If the present system continues on this track, physician burn out, increasing practice of defensive medicine, increasing cost of healthcare, and increasing mortality rates will be seen. In a widely referenced report, the cost of defensive medicine in USA is estimated to be USD 55.6 billion, which is equivalent to 2.4% of the health expenditure in 2008 (1). Unnecessary diagnostic tests and consultations and avoidance of high-risk patients are the most common form of defensive medicine (2). We have limited studies but some signs warn us that Turkey will face same consequences due to medical malpractice laws as long-lasting USA experience shows. It is needless to go through the same processes as USA for an additional 10–20 years in Turkey and face similar studies, discussions, high healthcare costs, and patient damages due to defensive medicine. We propose a new “patient compensation system” (PCS) for Turkey to avoid going through the same exhausting 20 years in the future.

New Patient Compensation System for Turkey:

PCS is an official administrative body formed by the Turkish Medical Chamber and Ministry of Health. Patients or their lawyers can apply to PCS to request for or demand inquisition, determination, and compensation of their damages. PCS is formed by physicians, nurses, hospital administrators, and other healthcare professionals. All medical records are evaluated by a rotational PCS board, and if a patient sustains an avoidable medical damage, PCS grants compensation and the result of the case is declared within 6–9 months. The PCS panel would use the following criteria to determine whether compensation can be granted: “Medical injury” means a personal injury or wrongful death due to medical treatment, including a missed diagnosis, wherein the provider performed a medical treatment on the applicant; the applicant suffered a medical injury with damages; and the medical treatment was the proximate cause of the damages. Based on the facts at the time of medical treatment, it may be identified whether an accepted method of medical services was not used for treatment or an accepted method of medical services was used for treatment but executed in a substandard fashion.

PCS fund for payment will be sustained by a fixed payment from all physicians regardless of the number of claims, and physicians would not need to purchase medical malpractice insurance because they could not be sued. PCS pays a fixed amount of compensation, and physician costs remain stable in contrast to medical malpractice insurance premiums. In PCS, there is no claim to defend, no depositions, no cross-examinations, no defense lawyers, and no financial losses incurred by long-lasting courtroom sessions. In PCS, all complaints would be reviewed, more patients would have access to justice, and payment would be made in months rather than in years, as is common now. In addition, the amount paid would be rational, reasonable, and predictable. Physicians would be able to speak openly and plainly about medical errors, thereby enabling safety initiatives to be implemented.

In PCS, physicians will not be required to practice defensive medicine and will be free to exercise their judgment. Human and financial resources of the healthcare system could be saved by good clinical judgment without causing harm to patients. Those who benefit from the current system will fight against the change. Legal experts who have reviewed the proposed PCS believe that a new PCS law will be constitutional and applicable.

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Clopidogrel and morphine: Aggregation disturbance?

To the Editor,

Clopidogrel is the new useful drug that is widely used at present (1). Clopidogrel is a thienopyridine (1). This drug mainly affects platelets by “irreversibly inhibiting platelet aggregation by selectively binding to adenylyl cyclase-coupled ADP receptors on the platelet surface” (1). At present clopidogrel is indicated for the “prevention of ischemic stroke, myocardial infarction, and vascular death” (1). The efficacy and the safety of clopidogrel are issued to be discussed in *Clinical Cardiology* (2). Drug–drug interaction is an interesting issue while using clopidogrel (3). Compared with morphine, clopidogrel is found to have a lower efficacy when the two drugs are concordantly used (3). Recently, Hobl et al. (4) reported that “morphine delays clopidogrel absorption, decreases plasma levels of clopidogrel active metabolite, and retards and diminishes its effects, which can lead to treatment failure in susceptible individuals.” It is no doubt that this drug–drug interaction is well recognized. However, it is still questionable whether morphine, itself, has any additional protective or inductive effects on aggregation. Here, the authors use a standard chemoinformatic technique named Aggregator Advisor (Shoichet Laboratory, UCSF) for determining the aggregation property of morphine. According to the study, morphine has only a slight aggregation property (101.1 comparing to neutral agent). However, this may indicate that using morphine in combination with clopidogrel can result in many unwanted outcomes on clopidogrel treatment, and the possible induction of aggregation is an unwanted outcome that should be of concern.

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