

Acute Coronary Syndrome After Nasal Spray of Oxymetazoline

To the Editor:

We present a case of a healthy young man who had an acute coronary syndrome 2 days after using oxymetazoline. The patient was a white man in his early 30s without a medical history who was suffering from acute nasal congestion with rhinorrhea. He was treated with oral pseudoephedrine, paracetamol, and triprolidine for 5 days and then nasal oxymetazoline tid for 3 days plus oral tiaprofenic tid. On the seventh day, the patient experienced retrosternal pain that spontaneously resolved after 45 min. The next day, he was admitted to the ED with retrosternal pain and numbness of the left upper limb. Clinical examination and ECG were normal. Hypersensible troponin level was 412 pg/mL. Coronary angiography was first normal (Fig 1A), but while performing the procedure, an intense thoracic pain occurred associated with a fall in BP (systolic value, 40 mm Hg). ECG showed an ST-segment elevation in leads V1 to V6. Angiography showed a proximal spasm on the anterior interventricular artery with no flow (TIMI 0) (Fig 1B). The patient had no history of smoking, use of narcotics, or cocaine and other stimulants. Biologic parameters (especially lipid levels) were normal. Atropine and hydroethylamide were given, and the acute coronary syndrome completely resolved. After 48 h of observation, the patient was discharged with verapamil plus acetylsalicylic acid and trinitrine in case of chest pain. Seven months later, the patient continues to be symptom free.

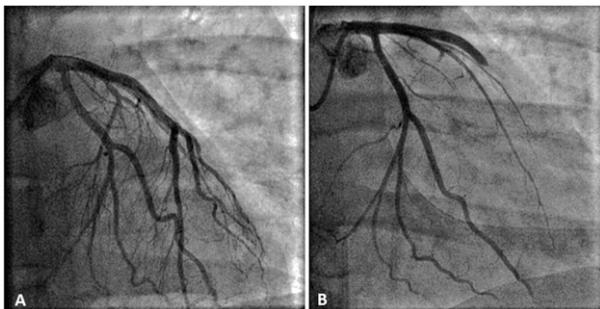


Figure 1 – A and B, Coronary angiogram of the left system showing normal arteries (A) at the beginning of angiography and proximal spasm on the anterior interventricular artery (B) concomitant with the occurrence of acute thoracic pain.

Oxymetazoline and pseudoephedrine, used as nasal decongestants, reduce airflow resistance by decreasing volume of nasal mucosa, acting on both arterial and venous vessels through activation of α_1 - and α_2 -adrenoceptors.^{1,2} Their use, whatever the route, leads to systemic diffusion with peripheral α -adrenergic effects. The risk of acute coronary syndrome is less reported with oxymetazoline than with pseudoephedrine.^{3,4} A case of prolonged chest pain with elevation of cardiac biomarkers after using oxymetazoline was reported in a 64-year-old African American woman but, in contrast to the present case report, she exhibited severe cardiovascular risk factors (age, diabetes mellitus, and arterial hypertension).⁵

This case report underscores that such an adverse drug reaction can occur with oxymetazoline, even by nasal route, in patients without identified risk factors. Sympathomimetic drugs, widely used for nasal congestion, must not be used in patients with cardiovascular risk factors; physicians should not forget their true pharmacodynamic properties.

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