Rev Port Cardiol. 2016;xxx(xx):xxx.e1--xxx.e4

Revista Portuguesa de
Cardiologia
Portuguese Journal of Cardiology
www.revportcardiol.org

CASE REPORT

A rare cause of acute coronary syndrome: Kounis syndrome☆

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Received 3 December 2015; accepted 8 March 2016

KEYWORDS
Kounis syndrome;
Acute coronary syndrome;
Coronary vasospasm;
Allergy

Abstract Kounis syndrome is an acute coronary syndrome in the context of a hypersensitivity reaction. The main pathophysiological mechanism appears to be coronary vasospasm.

We report the case of a patient with a history of allergy to quinolones, who was given ciprofloxacin before an elective surgical procedure and during drug administration developed symptoms and electrocardiographic changes suggestive of ST-segment elevation acute coronary syndrome. The drug was suspended and coronary angiography excluded epicardial coronary disease. Two hours after withdrawal of the drug the symptoms and ST elevation had resolved completely.
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PALAVRAS-CHAVE
Síndrome de Kounis;
Síndrome coronária aguda;
Vasospasmo coronário;
Alergia

Causa rara de síndrome coronária aguda: síndrome de Kounis

Resumo A síndrome de Kounis corresponde a uma síndrome coronária aguda em contexto de reação de hipersensibilidade. O mecanismo fisiopatológico principal parece estar relacionado com vasospasmo coronário. Apresentamos o caso de um doente com história de alergia a quinolonas, ao qual foi administrado ciprofloxacina antes de um procedimento cirúrgico eletivo e que, durante a administração do fármaco, desenvolve quadro sugestivo de síndrome

☆ Please cite this article as: Almeida J, Ferreira S, Malheiro J, Fonseca P, Caeiro D, Dias A, et al. Causa rara de síndrome coronária aguda: síndrome de Kounis. Rev Port Cardiol. 2016. http://dx.doi.org/10.1016/j.repc.2016.03.009

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coronária aguda com supradesnivelamento de ST. O fármaco foi suspenso e a realização de cateterismo cardíaco emergente revelou ausência doença coronária epicárdica. Duas horas após a interrupção do fármaco, o quadro clínico resolveu completamente.
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Introduction

In acute coronary syndrome (ACS), coronary angiography excludes significant coronary disease in 5-20% of cases.[1] We report the case of a patient admitted to our department for ST-segment elevation ACS but with no epicardial coronary disease on coronary angiography. The ACS was probably due to a hypersensitivity reaction. Myocardial infarction or angina secondary to an allergic reaction is known as Kounis syndrome.[2]

Case report

An 85-year-old man, white, a former smoker, had a history of hypertension, stage 4 chronic kidney disease, bladder cancer under follow-up, and allergy to quinolones. He was being medicated with hydroxyzine 25 mg daily and alprazolam 0.25 mg daily.

He was admitted electively to the hospital for surgical circumcision and meatoplasty. During administration of ciprofloxacin in the operating theater he developed constricting chest discomfort associated with dyspnea, sweating and hypotension. Electrocardiographic monitoring showed apparent ST elevation, so ciprofloxacin was suspended and the patient was transferred to the hospital's emergency department. The electrocardiogram (ECG) revealed ST elevation (>3 mm) in DII, DIII and aVF, with ST depression and T-wave inversion in aVL and V1-V3 (Figure 1).

Given the suspicion of inferoposterior ST elevation ACS, he was medicated with a loading dose of ticagrelor (180 mg), aspirin 250 mg and morphine 8 mg and referred to our hospital for emergent catheterization. Coronary angiography, performed two hours after symptom onset, excluded coronary disease (Figure 2) and he was admitted to the cardiac intensive care unit. On admission he was asymptomatic and hemodynamically stable (blood pressure 112/67 mmHg) and the ECG showed sinus rhythm, right bundle branch block, and no ST-segment alterations (Figure 3). Transthoracic echocardiography revealed no wall motion abnormalities or other relevant changes. Laboratory tests showed leukocytosis ($11.72\times10^3/\mu l$, reference value $3.8\text{-}10.6\times10^3/\mu l$), neutrophilia (86.8%) and elevated C-reactive protein (5.24 mg/dl, reference value 0-0.5 mg/dl). These inflammatory parameters normalized within 24 hours. Assessment of cardiac biomarkers showed slight changes in high-sensitivity troponin T (falling from 0.051 to 0.035 ng/ml at 12 hours, reference value 0.003-0.014 ng/ml) and normal pro-B-type natriuretic peptide (102 pg/ml, reference value 0-450 pg/ml).

Given the absence of coronary disease, together with the patient's history of allergy to quinolones and the temporal association with ciprofloxacin administration, a diagnosis of allergic ACS (Kounis syndrome) was made. The patient was discharged after 24 hours of surveillance, medicated with long-acting oral nitrates, and there were no further events in two-month follow-up.

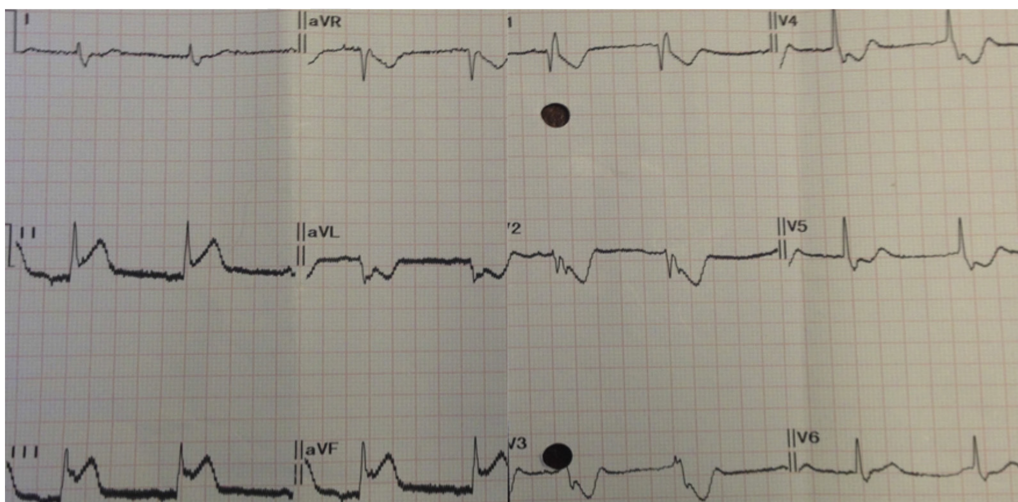

Figure 1 Electrocardiogram following symptom onset.

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