



Case Report

Kounis syndrome presenting as inferior, posterior and lateral wall myocardial infarction with urticaria, angioedema and re-canalized coronaries: A case report

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Abstract

Background: Kounis syndrome is an underrecognized clinical entity characterized by the concurrence of acute coronary syndrome (ACS) with hypersensitivity reactions. We report a 41-year-old female with newly diagnosed type 2 diabetes mellitus who presented with a prodrome of generalized pruritus, fever, and arthralgia, followed by acute chest pain. Electrocardiogram revealed inferior, posterior, and lateral wall myocardial infarction. Coronary angiography showed recanalized coronaries without significant obstruction. The patient also developed urticaria with angioedema and swelling. Laboratory findings demonstrated leukocytosis with normal IgE and negative autoimmune markers. A diagnosis of Kounis syndrome was made. This case highlights the importance of recognizing allergy as a provoker of myocardial ischemia even in the absence of classical immunological abnormalities.

Keywords: Kounis syndrome; Urticaria; Angioedema; Acute coronary syndrome; Myocardial infarction; Coronary vasospasm

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1. Introduction

Kounis syndrome represents the intersection of hypersensitivity reactions and acute coronary events, mediated by mast cell activation and release of inflammatory mediators such as histamine and leukotrienes. These mediators can induce coronary vasospasm, plaque disruption, or thrombosis. Despite increasing awareness, Kounis syndrome remains underdiagnosed due to its clinical overlap with conventional myocardial infarction. Early recognition is essential, as management requires addressing both the allergic and cardiac components.

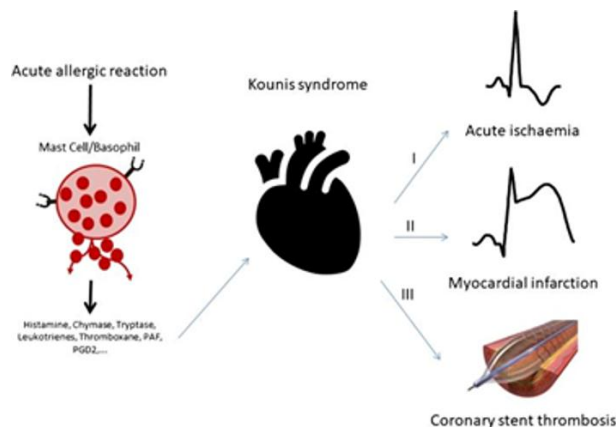


Image source: ResearchGate, Mechanisms underlying Kounis syndrome

2. Case presentation

A 41-year-old obese female with newly diagnosed type 2 diabetes mellitus presented with a two-week history of progressive generalized pruritus associated with fever and arthralgia, for which she received oral antibiotics. She subsequently developed at home acute onset of burning sensation in the chest, with diaphoresis and nausea. Electrocardiogram revealed inferior, posterior, and lateral wall myocardial infarction. She also developed diffuse urticaria with angioedema involving the face and extremities. Echocardiography demonstrated mild left ventricular dysfunction. Coronary angiography showed recanalized coronary arteries without significant obstructive disease.

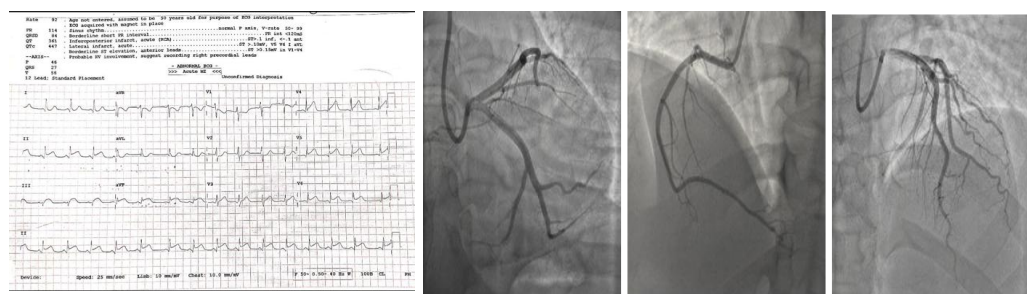


Fig (1): ECG and Angio

3. Obs-gyn history

The patient attained menarche at the appropriate age and has a history of regular menstrual cycles. She is Gravida 2, para 2, living 2 (P2L2), with both deliveries conducted by lower segment caesarean section (LSCS). There is no history suggestive of gestational hypertension or gestational diabetes mellitus (GDM) in her previous pregnancies.

No relevant family history of CAD, Diabetes Mellitus.

4. Investigations

Total WBC count	22,220 cells/mm ³ (elevated)
Platelet count	414,000 cells/mm ³
Serum IgE	Within Normal Limits
C3	119 mg/dL
C4	29.6 mg/dL
ANA	Negative

RFT, LFT, Electrolytes	Normal range
Electrocardiogram	Inferior, posterior, and lateral wall myocardial infarction
Coronary angiography	Recanalized coronaries; no significant stenosis

5. Diagnosis

Kounis syndrome (Type I variant) presents as allergic myocardial infarction with urticaria and angioedema

Management

Patients were discharged with dual antiplatelet therapy, high-intensity statin, beta blocker, corticosteroid, antihistamine, proton pump inhibitor, oral hypoglycemic agents, insulin therapy and other supportive measures for management of acute coronary syndrome with allergic manifestations and diabetes mellitus.

6. Discussion

Kounis syndrome is a manifestation of allergic myocardial involvement triggered by mast cell degranulation and release of vasoactive mediators. These mediators can precipitate coronary vasospasm, leading to myocardial ischemia even in the absence of obstructive coronary artery disease. This case highlights a clear allergic prodrome, presence of urticaria with angioedema and swelling, recanalized coronaries suggesting transient coronary involvement, and normal IgE levels emphasizing the clinical nature of diagnosis.

7. Conclusion

Kounis syndrome is an important and often overlooked cause of myocardial infarction. This case emphasizes that allergic mechanisms can underline acute coronary events even in the absence of significant coronary artery disease or classical immunological abnormalities. Recognition of associated features such as urticaria, angioedema, and swelling is crucial. Early identification allows timely initiation of dual therapy targeting both allergic and cardiac pathways, thereby improving patient outcomes. Clinicians should maintain a high index of suspicion in atypical ACS presentations to avoid misdiagnosis and ensure optimal care.