

Kounis Syndrome: Unmasking Mast Cell Mediated Allergic Angina

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Introduction

- ❖ Kounis syndrome (KS) causes coronary vasospasms due to an allergic or hypersensitivity reaction
- ❖ Regulated by mast cells and platelet aggregation
- ❖ Triggers for coronary vasospasms include food, drugs and environment

Case

“A 46-year-old male presenting with recurrent ST elevations in anterior leads”

- **PMHx:** Asthma, allergic rhinitis, Type 2 DM, HLD, and OSA
- **ROS:** Chest pain relieved with sublingual nitroglycerin, and diaphoresis
- **Admission:** ECG showing ST elevations in anterior leads (Fig. 1) followed by ventricular fibrillation (V. Fib) arrest requiring defibrillation (Fig. 2). Further repeat admissions within two weeks for similar ST elevations in anterior leads despite medical therapy.
- **Objective:** Emergent cardiac catheterization showed nonobstructive coronary artery disease in LAD and RCA (Fig. 3). Cardiac MRI showed no evidence of scar (Fig.4).
- **Differentials:** Acute Type 1 Myocardial Infarction vs Coronary Vasospasms



Figure 1. ECG showing ST elevations in anterior leads in the field

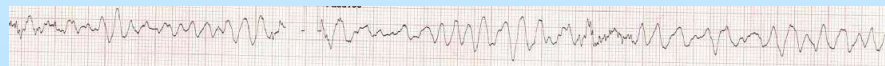


Figure 2. Telemetry strip showing Ventricular fibrillation

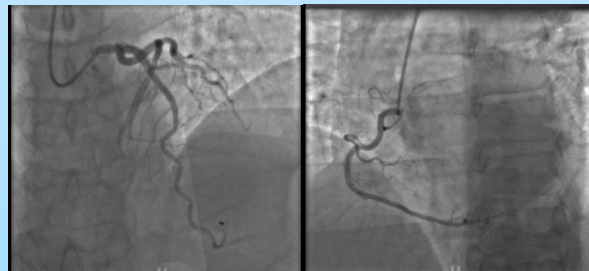


Figure 3. Cardiac Catheterization showing minimal disease in LAD (Left) and minimal disease in RCA (Right)



Figure 4. Cardiac MRI showing no evidence of scar and mild LVH

Decision-Making

- ❖ **Treatment:** No guidelines regarding treatment. Calcium channel blockers, avoidance of allergens, steroids, leukotriene inhibitors, and H1 and H2 blockers
- ❖ Initially started on amlodipine, isosorbide mononitrate and aspirin
- ❖ Placement of single-chamber ICD secondary to unknown etiology of V. fib arrest
- ❖ After repeat episodes started on H1 blocker (fexofenadine), and leukotriene inhibitor (montelukast)
- ❖ Has not had any repeat episodes since starting treatment

Conclusion

- ❖ Missed diagnosis estimated 7.9 to 9.6 per 100,000 people are diagnosed every year
- ❖ Clinical diagnosis and should be suspected in patients who have repeat episodes of acute coronary syndrome with history of atopy and allergic reactions
- ❖ **Goal:** to bring awareness to this difficult diagnosis in hopes that it will be identified and treated sooner

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