Q25 Kounis Syndrome

Which *one* of the following statements about Kounis Syndrome (KS) (allergic angina) is *false*?

- ❍ 1. It is diagnosed in 2% of patients with anaphylaxis.
- ❍ 2. Common findings in Type I KS include normal cardiac enzymes.
- ❍ 3. Beta blockers are a recommended treatment.
- ❍ 4. Epinephrine should be reserved for cases involving airway compromise, refractory shock, or hypotension.

Educational Point: Kounis syndrome (KS), or allergic angina, is the occurrence of acute coronary syndrome (ACS) triggered by a hypersensitivity event. **Kounis syndrome (KS) is much less considered in differential diagnoses despite being diagnosed in 2% of patients with anaphylactic reactions,** and accounting for 3.4% of allergy-related admissions. Physicians should be particularly suspicious of KS in patients who present with chest pain and typical allergic symptoms including rash, urticaria, or wheezing. Kounis syndrome most commonly affects 40- to 70-year-olds and is most often triggered by medications, animal bites, or stings. The most important risk factor for KS is a history of allergies, which is present in up to 25% of patients; other risk factors include hypertension, smoking, diabetes, and dyslipidemia.

Kounis syndrome can be divided into type I, involving hypersensitivity-induced vasospasm of the coronary arteries; type II, where pre-existing silent atheromatous disease is aggravated by a hypersensitivity reaction; and type III, where a reaction causes stent thrombosis in patients with stents in situ. **Common findings in type I KS include normal cardiac enzymes** and ECG changes that are non-specific or transient. While KS types II and III require treatments used for classic ACS, type I resolves with treatment of the hypersensitivity event. In cases where there is a reasonable probability of underlying atheromatous disease or the patient has cardiac stents, emergency angiography should be completed to distinguish type I from type II and III KS. Types II and III involve the presence of a thrombus and require treatment similar to classic ACS but with modifications. Importantly, many of the treatment options for both ACS and anaphylaxis can complicate the management of KS, and timely recognition is required to avoid exacerbating myocardial ischemia. Nitroglycerin can exacerbate cardiovascular collapse caused by anaphylaxis.

While ASA is indicated in ACS, it upregulates leukotriene production, which can worsen coronary vasospasm. **While β-blockers are a mainstay of ACS treatment, they are not recommended in KS because they can worsen coronary vasospasm and inhibit the anti-anaphylactic effect of epinephrine. Epinephrine may worsen vasospasm, causing ischemia and provoking arrhythmias. Practice suggests its use be reserved for cases involving airway compromise, refractory shock, or hypotension.**

Kounis syndrome is an underdiagnosed presentation to the ED that often masquerades as ACS. A high level of suspicion is necessary for individuals presenting to the ED with chest pain and either a history of allergies or current anaphylactic symptoms.

The correct answer is 3.

Reference: Armstrong C, Esleben A, Brick C, Mitges C, Strobel S, Kapend P. Kounis syndrome case study: When allergies break your heart. *Can Fam Physician*. 2025 Apr;71(4):255-258.
Link: https://pmc.ncbi.nlm.nih.gov/articles/PMC12007627/
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