

Type II Kounis syndrome diagnosed by optical coherence tomography and coronary angiography

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Kounis syndrome (KS), an allergen-induced coronary artery disorder, is classified as type I, causing vasospastic allergic angina; type II, causing allergic acute coronary syndrome (ACS) contributed to vulnerable plaque; and type III, causing coronary artery stent thrombosis. Herein, we report the first documented type II KS case diagnosed using optical coherence tomography (OCT) and coronary angiography (CAS).

An 80-year-old man underwent resection for bladder cancer. One gram of cefazolin was administered at the beginning of surgery, and rocuronium and propofol were administered before intubation. A few minutes later, the patient's blood pressure dropped suddenly from 120/80 mmHg to 70/40 mmHg, and electrocardiography (ECG) revealed ST-T depression. A full-body skin rash, diagnosed as anaphylaxis, was treated with adrenaline and

dexamethasone. After confirming that the patient's vital signs were stable, continuous nitroglycerin was administered to the patient until the following morning to treat myocardial ischemia. An ECG the following day showed resolution of ST-T depression; however, cardiac enzyme levels, including troponin T, were elevated. One week later, coronary angiography revealed a culprit lesion, identified as ACS using OCT and CAS. Furthermore, we detected a thin-cap fibroatheroma, white-colored complex thrombi, and brilliant yellow vulnerable plaques (Fig. 1, **Suppl. Video 1**). While intraoperative anesthetics or antibiotics have been reported as KS inducers in many cases, we concluded that the anaphylactic reaction induced by these drugs might have triggered type II KS. Based on our imaging results, antiplatelet and lipid-lowering therapies were administered first rather than stents.

Conflict of interest: None declared

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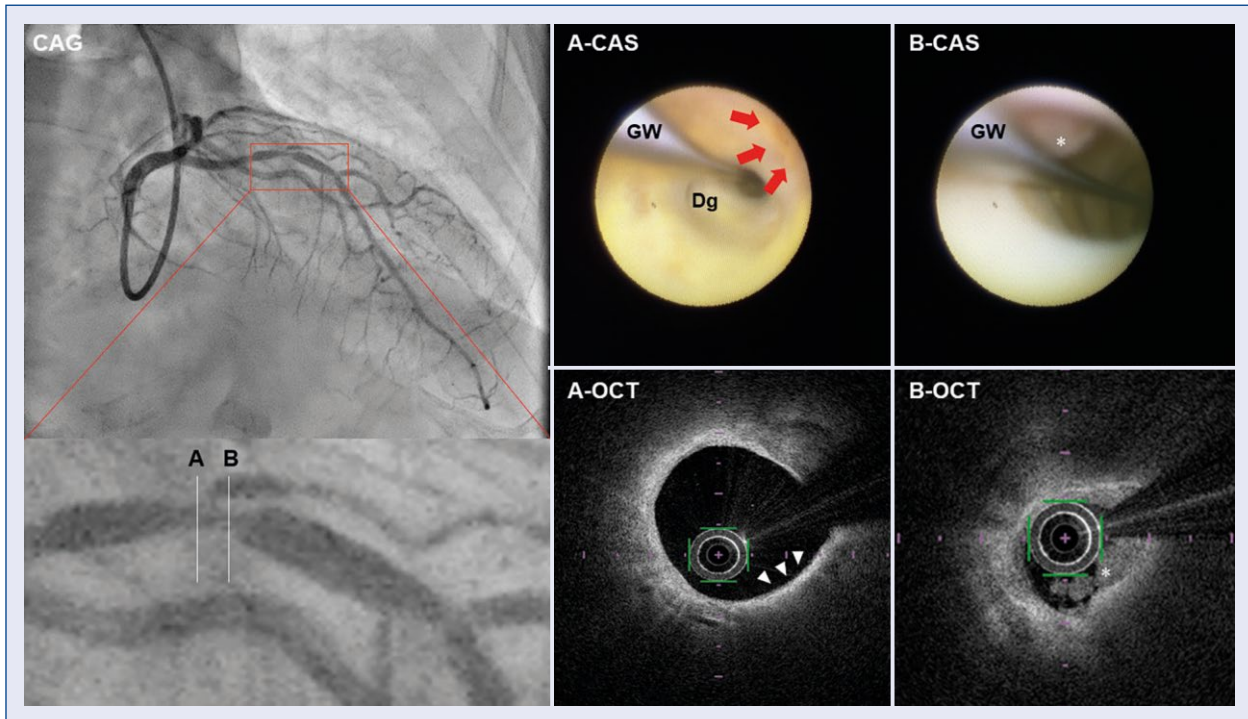


Figure 1. CAG. Coronary angiography revealed significant stenosis in the proximal left descending artery; **A-CAS.** Coronary angioscopy identified brilliant yellow vulnerable plaques and a site that could have been a ruptured plaque remnant (indicated by red arrows); **B-CAS:** Coronary angioscopy detected white-colored complex thrombi (indicated by asterisk) in the narrowest coronary artery; Dg — diagonal branch, GW — guidewire; **A-OCT.** Optical coherence tomography demonstrated a thin-cap fibroatheroma (indicated by white triangles) with attenuated shadows and without a normal 3-layer construction of the coronary artery; **B-OCT.** Optical coherence tomography detected cauliflower-like homogenous thrombi (indicated by asterisk), which were assumed to be platelet-fibrin aggregations.