Kounis Syndrome: Kill Two Birds With One Stone

Takehiro Yamashita, MD, PhD; Yasunori Oguma, MD, PhD; Nicholas G. Kounis, MD, PhD

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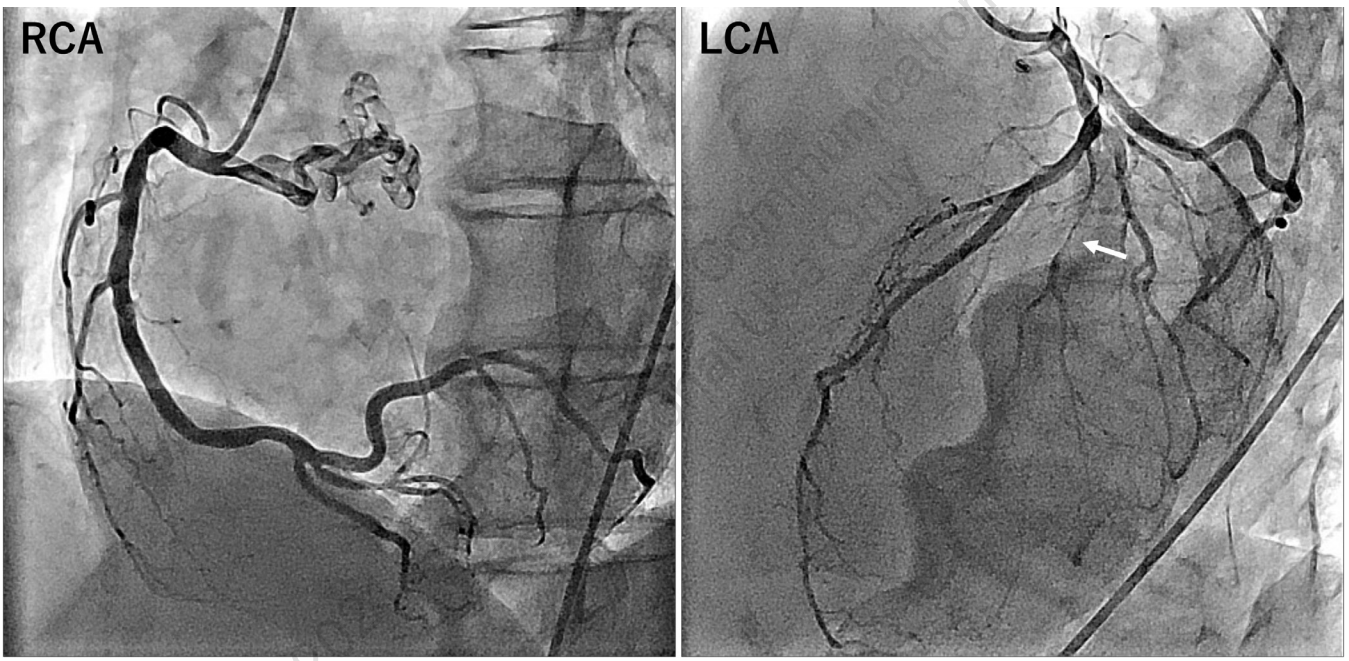

FIGURE 1. Baseline coronary angiography. (A) Right coronary artery (RCA). (B) Left coronary artery (LCA).

A 59-year-old man with a 95% stenosis in his diagonal branch (**Figure 1**) and no stenosis in the right coronary artery (RCA) or left circumflex artery was scheduled for percutaneous coronary intervention. A balloon angioplasty followed by a drug-coated balloon application achieved an acceptable result (**Figure 2A, 2B**). After prophylactic intravenous cefazolin administration for Proglide-site infection prevention, he started feeling general itching with palmar and cheek redness without any hemodynamic compromise, which resulted in methylprednisolone administration. However, ST elevation appeared in the inferior leads (**Figure 3B**), suggesting a potential RCA spasm. From these circumstances, a diagnosis of type I Kounis syndrome (KS) was made. Despite 2 puffs of nitroglycerin, the ST elevation persisted when bradycardia and hypotension progressed, resulting in his unconsciousness. While giving him intravenous epinephrine to maintain his hemodynamics, the ST level recovered, and he became fully conscious. When he complained of chest pain, a new ST elevation was noticed in the lateral leads, with ST levels in the inferior leads turning into depression (**Figure 3C**). Repeat angiography demonstrated neither spasm nor occlusion in the RCA (not shown), while the diagonal branch was completely occluded at the proximal portion (**Figure 2C**), which was considered to be responsible for ST elevation in the lateral leads. At that point, a diagnosis of type II KS was made. A drug-eluting stent implantation successfully restored blood flow (**Figure 2D**) and electrocardiographic changes returned to baseline (**Figure 3D**). Subsequently, his intradermal test was positive for cefazolin. This is the first reported case that combined 2 variants of KS in a single event.

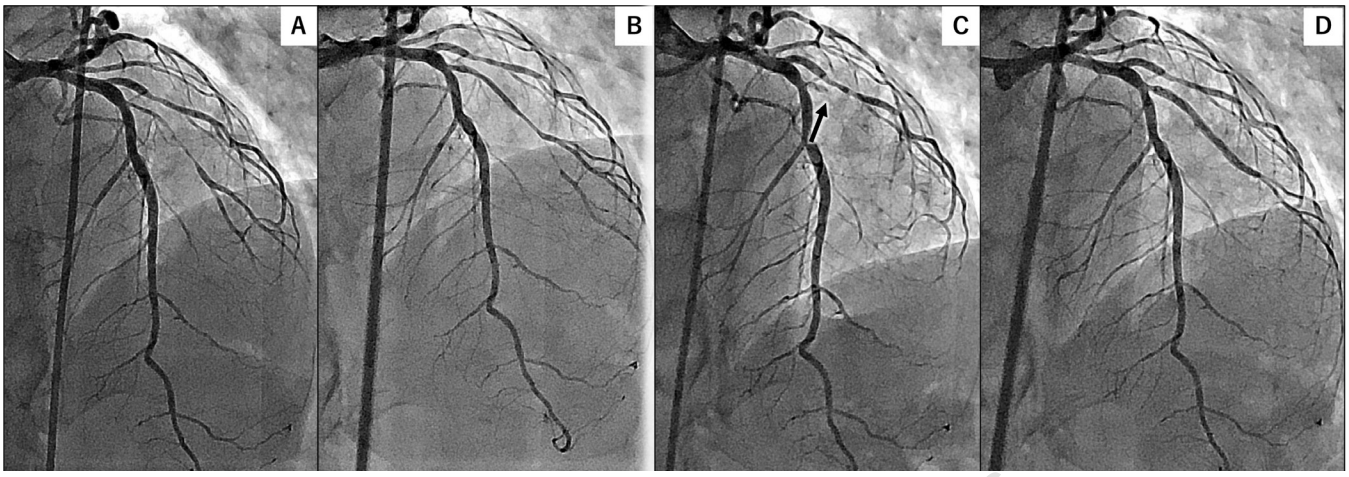

FIGURE 2. Percutaneous coronary intervention. (A, B, C) Balloon angioplasty followed by drug-coated balloon application achieved an acceptable result. (D) After possible RCA spasm, drug-eluting stent implantation successfully restored blood flow.

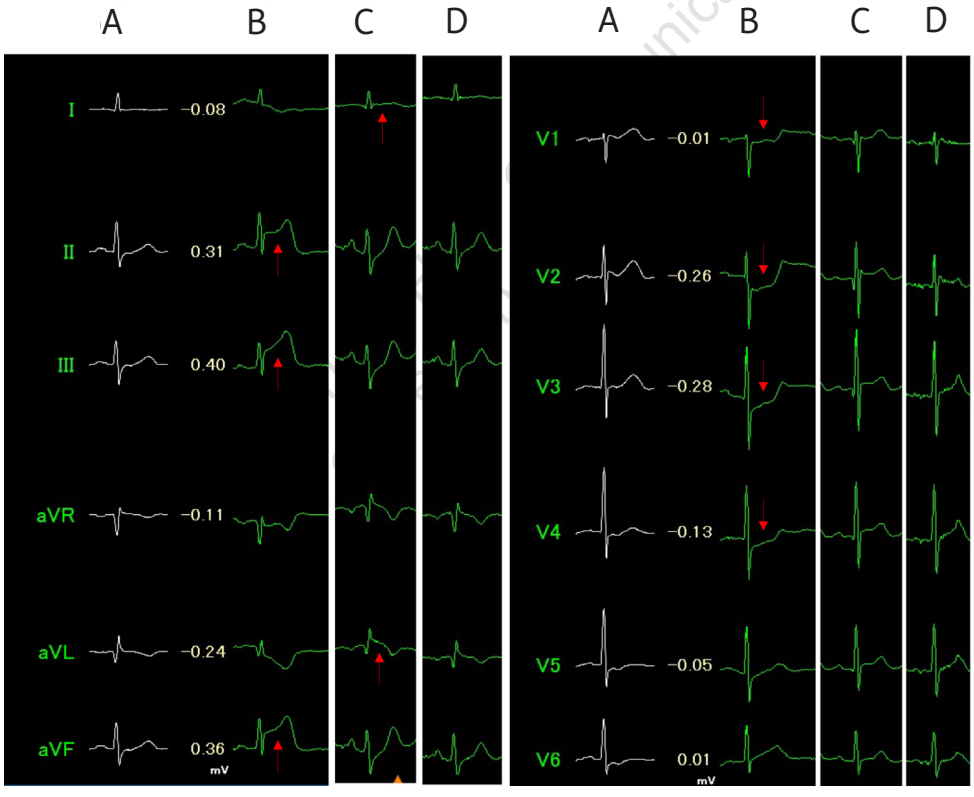

FIGURE 3. (A) Electrocardiogram. (B) ST elevation appeared in the inferior leads, suggesting a potential RCA spasm. (C) New ST elevation was noticed in the lateral leads, with ST levels in the inferior leads turning into depression. (D) After PCI, electrocardiogram returned to normal.

From the [1]Department of Cardiology, Cardiovascular Center, Hokkaido Ohno Memorial Hospital, Sapporo, Hokkaido, Japan; [2]Department of Cardiology, University of Patras School of Medicine, Patras, Greece.

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The authors report patient consent for the images used herein.

Address for correspondence: Takehiro Yamashita, MD, PhD, FACC, Cardiology, Cardiovascular Center, Hokkaido Ohno Memorial Hospital, 2-1-16-1, Miyanosawa, Nishiku, Sapporo, Hokkaido 063-0052, Japan. Email: t_yamashita@cvc-ohno.or.jp