

IMAGING VIGNETTE

INTERMEDIATE

CLINICAL VIGNETTE

Spontaneous Recanalization of Coronary Thrombus in a Patient With Polycythemia Vera



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ABSTRACT

Spontaneous recanalized coronary thrombi (SRCT), a rare and under-diagnosed entity, are old thrombus formations characterized by multiple communicating channels. We report the case of a 72-year-old female patient who presented with SRCT in the context of polycythemia vera. Optical coherence tomography (OCT) is the diagnostic method of choice. (**Level of Difficulty: Intermediate.**) (J Am Coll Cardiol Case Rep 2020;2:497-8) © 2020 The Authors. Published by Elsevier on behalf of the American College of Cardiology Foundation. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

A 72-year-old woman with a history of polycythemia vera (PV) was admitted for assessment of severe aortic stenosis. The patient was under hydroxyurea treatment since 15 years, with adequate control of red cells and platelets. Cardiovascular risk factors included arterial hypertension, dyslipidemia, and smoking. At the time of admission, laboratory studies revealed white blood cell count of $6.8 \times 10^9/l$, hematocrit of 41%, hemoglobin of 136 g/l, and platelets of $312 \times 10^9/l$. Results of a 12-lead electrocardiogram were unremarkable. Diagnostic coronary angiography revealed a hazy lesion in the mid left anterior descending artery with thrombolysis in myocardial infarction flow 3 in the distal artery (**Figure 1A**). The rest of the coronary arteries was free of significant disease. Optical coherence tomography (OCT) was performed depicting the classic appearance of chronic intracoronary thrombosis with multiple intraluminal channels of high signal intensity described as “Swiss cheese”-like appearance (**Video 1**). In contrast to previous reports describing fibrous plaques as underlying cause for rupture (1), there was no evidence of coronary artery atherosclerosis on OCT. Ventriculography revealed normal left ventricular systolic function. The lesion was successfully stented with a 3- × 24-mm drug-eluting stent (**Figure 1B**). Four weeks after percutaneous cardiac intervention the patient successfully underwent transcatheter aortic valve implantation and dual antiplatelet therapy with aspirin and prasugrel 10 mg was prescribed for 6 months. Further investigations, including 72-h electrocardiography monitoring, did not record atrial fibrillation, and there was no left ventricular thrombus or patent foramen ovale documented by echocardiography. After exclusion of other thromboembolic sources and absence of coronary atherosclerosis, a spontaneous recanalized coronary thrombus in the context of PV was suspected in this patient.

PV is a myeloproliferative neoplasm characterized by abnormal proliferation of hematopoietic stem cells. Coronary events are not uncommon during the course of PV. In a single-center study, myocardial infarction occurred in 11.4% of patients with PV (2), and hydroxyurea therapy has been shown to significantly reduce recurrent thrombotic complications such as stroke and myocardial infarction (3). In cases with unclear angiographic findings, OCT can help to determine and adequately treat the underlying pathology.

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The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, or patient consent where appropriate. For more information, visit the *JACC: Case Reports* [author instructions page](#).

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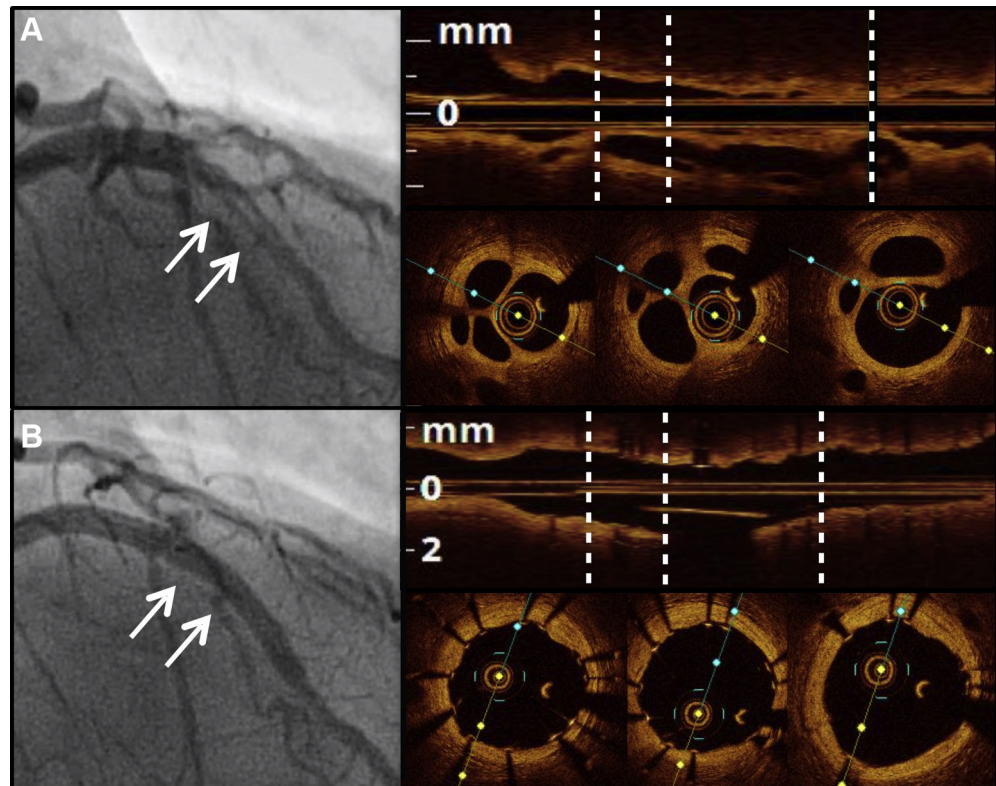
**ABBREVIATIONS
AND ACRONYMS**

OCT = optical coherence tomography

PV = polycythemia vera

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FIGURE 1 Spontaneously Recanalized Coronary Thrombus on Angiography



Spontaneously recanalized coronary thrombus on angiography (**arrows**) versus optical coherence tomography with each transverse optical coherence tomography slice (**dashes**) before (**A**) and after (**B**) stenting.

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KEY WORDS optical coherence tomography, polycythemia vera, spontaneous recanalized coronary thrombus

APPENDIX For a supplemental video, please see the online version of this paper.