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IMAGING VIGNETTE

INTERMEDIATE

CLINICAL VIGNETTE

A Rare Case of Takayasu Arteritis With Total Left Main Coronary Artery Occlusion

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ABSTRACT

We report the case of a young woman with chest pain and recurrent abortion. The patient was found to have Takayasu arteritis. Drug therapy was started, and emergency bypass surgery was performed. The case showed the possible clinical manifestation of vasculitis as a recurrent abortion, followed by total occlusion of the left main coronary artery. (**Level of Difficulty: Intermediate.**) (J Am Coll Cardiol Case Rep 2020;2:312–3) © 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 39-year-old woman described a 6-month history of exertional angina that had started shortly after delivery. The patient had a history of 4 abortions in the first trimester and 3 births. One of these was stillborn. On examination, no difference in blood pressure (BP) or pulses between both arms was noted. She reported periodic high BP over the last 2 years, with a maximum BP of 160/80 mm Hg.

Laboratory findings were a high erythrocyte sedimentation rate (30 mm/h), high fibrinogen level (5.1 g/l), and increased level of C-reactive protein (10 g/l).

The electrocardiogram showed a single ventricular extrasystole. Echocardiography demonstrated normal biventricular function. The pretest probability of ischemic heart disease was estimated to be 26% (1). The treadmill test was terminated at Stage 2 of the Bruce protocol with 5.10 metabolic equivalents of work because of the patient's report of chest pain. The patient could not achieve the target heart rate of 181 beats/min. The electrocardiogram showed 2-mm horizontal ST-segment depression in leads V_4 to V_6 at a rate of 126 beats/min. The Duke treadmill score showed an intermediate risk (−8.7). Computer tomography angiography revealed 50% stenosis in the proximal part of the right common carotid artery (CA) (Supplemental Figure 1), followed by an expansion to 8 mm and local 30% stenosis in the C2 segment of the left internal CA. The external CA and extracranial and inner cranial arteries were found to be normal. A 67-mm stenosis was detected in the thoracic aorta 32 mm below the left subclavian artery (Supplemental Figure 2). Coronary angiography showed a total occlusion of the left main coronary artery (LMCA) ostium (Supplemental Figure 3). The left anterior descending artery and left circumflex artery were visualized through shunting from the right coronary artery (Video 1, Supplemental Figure 4). Images and clinical presentation were compatible with Takayasu arteritis (TA) affecting the LMCA (2).

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Informed consent was obtained for this case.

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Drug therapy with prednisone 0.5 mg/kg was administered before revascularization for 1 month and gradually reduced to the minimum required dose. In addition, bisoprolol 2.5 mg, ramipril 5 mg/day, acetylsalicylic acid 100 mg, and clopidogrel 75 mg were administered. Coronary artery bypass graft (CABG) surgery was recommended because of the LMCA ostium stenosis (3). The early recovery period was uneventful. The patient was symptom-free for 2 months after CABG. Laboratory test results showed a reduction in erythrocyte sedimentation rate to 13 mm/h, normal fibrinogen level range, and reduced C-reactive protein level to 7.1 g/l. The echocardiogram was unchanged.

ABBREVIATIONS AND ACRONYMS

BP = blood pressure

CA = carotid artery

CABG = coronary artery bypass graft

LMCA = left main coronary artery

TA = Takayasu arteritis

DISCUSSION

The prevalence of coronary artery involvement in TA is 9% to 11%, with the majority affecting coronary ostial and/or proximal segments. Endo et al. (3) reported that 87.5% of hemodynamically relevant coronary artery stenoses were ostial. Because the clinical manifestations of TA are nonspecific, the diagnosis often is delayed. Our patient had a history of recurrent abortions, the first at age 22 years, which may have been the first manifestation of TA. There are a few reports of TA as an etiologic risk factor for recurrent fetal losses, one of them presented by Gupta et al. (4).

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KEY WORDS chest pain, large vessel vasculitis, left main total occlusion, Takayasu arteritis

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