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Letters

TO THE EDITOR

Treatment Strategies for Prosthetic Valve Thrombosis–Derived Coronary Embolism

We recently read with great interest the report by Lacunza-Ruiz et al. (1) describing the management of a coronary embolism (CE) as a complication of prosthetic mitral valve thrombosis. We thank the authors for their report that included a rare complication of prosthetic valve thrombosis. However, we have some essential criticisms regarding some major drawbacks in the management of the patient.

CE is a rare cause of acute coronary syndrome (ACS) in patients with prosthetic heart valves. The majority of patients with a prosthetic heart valve who present with ACS have non-ST-segment elevation ACS rather than ST-segment elevation ACS (2). The information in the literature about this complication is scarce and mainly based on case reports. There is a controversy regarding the treatment of patients with CE. In the current literature, thrombolytic therapy (TT), stent implantation, and embolectomy were performed as reperfusion strategies, but there is no consensus regarding the optimal treatment.

In the case report by Lacunza-Ruiz et al., a 66-year-old woman with bileaflet mechanical mitral prosthesis was admitted with non-ST-segment elevation ACS. Although there was no ST-segment elevation and the international normalized ratio on admission was subtherapeutic, they performed emergent coronary angiography (CAG) before evaluation of the prosthetic valve with transthoracic or transesophageal echocardiography (TEE). CAG revealed a thrombus in the middle segment of the left anterior descending artery that was aspirated successfully, and intracoronary ultrasound showed an undamaged coronary wall. These findings were consistent with a coronary embolism, so they performed TEE, which revealed a prosthetic valve thrombosis (PVT). There is a lack of information about what they decided to do next for the patient. In Figure 1D, it seemed that the thrombus burden on the prosthetic valve was high and might include possible mobile components, which represented a high risk of new thromboembolisms.

First, the major concern regarding the management of this patient is that when a patient with prosthetic valve is admitted with non-ST-segment elevation ACS, PVT needs to be excluded by TEE before CAG. This strategy helps the clinician to decide what to do during percutaneous interventions. If there is no PVT, the clinician may focus on solving only the coronary problem; however, if there are signs of PVT, the clinician needs to find solutions for 2 problems. In such situations, TT may be a favorable treatment strategy that aims to lyse both valvular and coronary thrombi in the absence of any contraindications. The fresh nature of the embolic thrombus may play a role in the successful outcome of TT. In our recently published case series, TT was considered as an initial therapy in the management of PVT and related CE, with successful outcomes for both prosthetic and coronary thromboses (3,4).

Treatment modalities for PVT include administering heparin, TT, and surgery. Guidelines lack definitive class I recommendations because of the lack of randomized, controlled trials and usually leave the choice of treatment to the clinician's experience. Surgery is suggested as a first-line strategy in most situations of left-sided PVT; however, TT was recently used with successful outcomes (5-7). We previously reported that a low dose (25 mg) and slow infusion (6 h) of tissue plasminogen activator are very safe and associated with very high thrombolytic success in this regard (5,6). Moreover, in a recent meta-analysis, Castilho et al. (8) reported much higher mortality rates with surgery compared with TT in the management of PVT (18.1% vs. 6.6%, respectively) .

As a result, we can conclude that CAG can be deferred until after TEE to decide the best treatment strategy for PVT patients who present with CE. TT should be considered as an initial treatment modality in these patients.

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Transcatheter Left Atrial Appendage Ligation Therapy Update

We have read the recent review by Saw and Lempereur (1) with interest because it provides a comprehensive overview of the currently available therapies for transcatheter left atrial appendage (LAA) closure, with a particular emphasis on procedural imaging and techniques (1). However, the review does not accurately reflect the currently available technology with regard to the Lariat procedure (SentreHEART, Redwood City, California). The article repeatedly states that the Lariat procedure is only feasible for LAA diameters <40 mm. The Lariat Plus device has recently become available with a snare diameter of 45 mm (compared with the first-generation device, which had a snare diameter of 40 mm). We have used the Lariat Plus device with success to close an appendage >40 mm in diameter. Other advances in this next-generation device include improved epicardial torque control and radiopaque markers. We thank the editors for the opportunity to provide this important clarification related to the rapidly evolving field of structural heart disease.

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