

IMAGES IN INTERVENTION

Importance of Close Surveillance of Patients With Conservatively Managed Spontaneous Coronary Artery Dissection



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Spontaneous coronary artery dissection (SCAD) accounts for up to 25% of acute coronary syndromes in women <60 years of age (1). In the absence of trial-based evidence, the decision to opt for medical or interventional management of SCAD is based on patient outcomes in observational registries (2,3). In general, medical treatment is advised in “stable” SCAD patients, restricting percutaneous coronary intervention to patients with high-risk features such as left main dissection, ongoing or recurrent ischemia, ventricular arrhythmias, or cardiogenic shock (4). However, little emphasis is made on the dynamic nature of the SCAD and the potential for patient worsening after the initial treatment decision.

Four 40-year-old women (Patients A, B, C, and D [Figures 1A, 1B, 1C, and 1D, respectively]) presenting to our hospital with acute coronary syndromes presented angiographic features of SCAD (Figures 1, A1, B1, C1, and D1, Online Videos 1, 3, 5, and 7). Because of the absence of symptoms and/or high-risk features at the time of catheterization, they all were treated medically. However, 2 patients required urgent repeated coronary angiography due to the occurrence of cardiogenic

shock (Patient A) and of angina at rest (Patient C), with evidence of severe progression of SCAD up to the left main coronary artery (Figures 1 and A2, Online Video 2) and proximal circumflex (Figures 1 and C2, Online Video 6), respectively, with the need of subsequent extensive percutaneous transluminal coronary angioplasty with multiple drug-eluting stents/bioresorbable scaffold implantation. By contrast, Patients B and D underwent elective in-hospital angiographic control, which showed complete SCAD healing (Figures 1, B2, and D2, Online Videos 4 and 8).

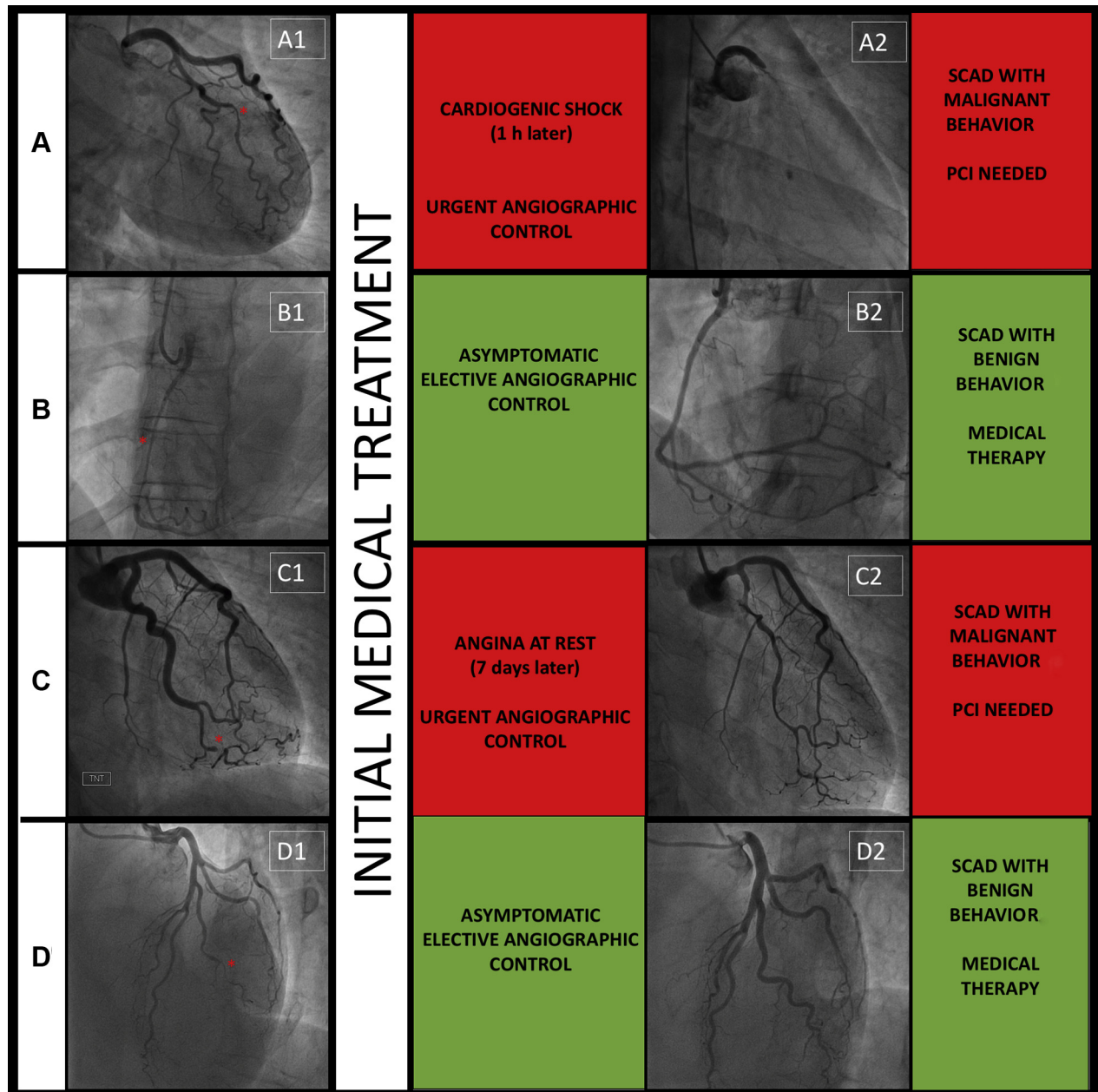
Due to the paucity of prospective data, management of SCAD constitutes an unmet need in clinical practice. These cases serve as a reminder of the unpredictability of SCAD evolution after an initial management decision, and of the importance of a close surveillance of patients with this condition.

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FIGURE 1 Unpredictable Behavior of Medically Treated SCADs




Angiography of Patients A, B, C, and D is shown. The asterisk indicates evidence of SCAD. **(A1)** Spontaneous dissection of the obtuse marginal coronary artery in Patient A ([Online Video 1](#)). **(A2)** Progression of the obtuse marginal dissection up to the left main coronary artery in Patient A ([Online Video 2](#)). **(B1)** Spontaneous dissection of the right coronary artery in Patient B ([Online Video 3](#)). **(B2)** Right coronary artery spontaneous dissection's healing in Patient B ([Online Video 4](#)). **(C1)** Spontaneous dissection of the distal obtuse marginal coronary artery in Patient C ([Online Video 5](#)). **(C2)** Progression of the obtuse marginal coronary dissection up to the proximal circumflex coronary artery in Patient C ([Online Video 6](#)). **(D1)** Spontaneous dissection of the diagonal branch in Patient D ([Online Video 7](#)). **(D2)** Diagonal branch spontaneous dissection's healing in Patient D ([Online Video 8](#)). PCI = percutaneous coronary intervention; SCAD = spontaneous coronary artery dissection.

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 **APPENDIX** For supplemental videos, please see the online version of this paper.