The Texas Heart Institute® Journal

*Images in Cardiovascular Medicine*

# A Case of a Multistent Scaffold Approach for Treatment of a Coronary Artery Aneurysm

Rahul Annabathula, MD; Anweshan Samanta, MD; Diljon Chahal, MD

Division of Cardiovascular Medicine, Department of Medicine, University of Maryland School of Medicine, Baltimore, Maryland



**Keywords:** Coronary aneurysm; stents; coronary stenosis

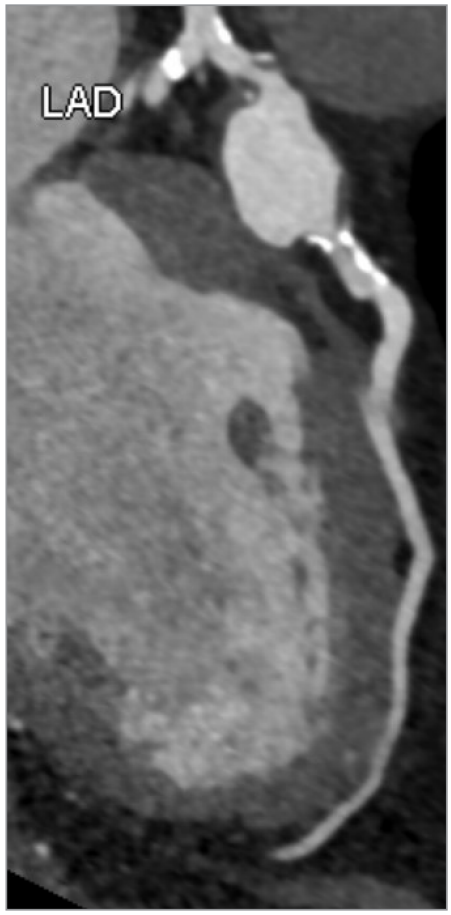


**Fig. 1** Preprocedural coronary computed tomography angiography outlines the left anterior descending coronary artery (LAD) aneurysm.

## Case Description

A 74-year-old man with a left anterior descending coronary artery (LAD) aneurysm who was not a surgical candidate was referred to the catheterization laboratory because of concerns for rapid aneurysmal expansion. Coronary computed tomography angiography (Fig. 1) revealed a large, proximal LAD aneurysm 1.6 cm in diameter, with calcified and soft plaque both proximal and distal to the aneurysm. Angiography revealed that the proximal LAD had moderate (60%) stenosis, followed by a large, fusiform aneurysm. There was severe (80%-90%) stenosis just distal to the aneurysm, with Thrombolysis in Myocardial Infarction grade 2 flow in the rest of the LAD (Fig. 2).

**Fig. 2** Preprocedural angiogram shows the left anterior descending coronary artery aneurysm.

*Supplemental motion image available for* Figure 2

**Citation:** Annabathula R, Samanta A, Chahal D. A case of a multistent scaffold approach for treatment of a coronary artery aneurysm. *Tex Heart Inst J*. 2025:52(1):e258573. doi:10.14503/THIJ-25-8573
**Corresponding author:** Rahul Annabathula, MD, University of Maryland School of Medicine, Division of Cardiovascular Medicine, 110 S Paca St, 7th Floor, Baltimore, MD 21201 (rannabathula@som.umaryland.edu)

### Technique

Via radial access, an XB 3.5 guide catheter was used. Using a 5.5F GuideLiner guide catheter (Teleflex Incorporated) for support, a Runthrough NS guidewire (Terumo Interventional Systems) and Turnpike LP microcatheter (Teleflex Incorporated) were passed along the aneurysm into the distal LAD. The LAD was predilated on both sides of the aneurysm with a 2.75 × 20-mm semicompliant balloon. Intravascular ultrasonography imaging was performed to obtain vessel, lesion, and aneurysm sizing information. A 4.0 × 48-mm drug-eluting stent was deployed across the aneurysm, landing within the nonaneurysmal portions of the LAD to provide a scaffold for the covered stents. The stent was postdilated with 5.0 × 20-mm and 5.0 × 12-mm noncompliant balloons. Next, 5.0 × 26-mm and 5.0 × 20-mm PK Papyrus–covered stents (Biotronik) were deployed within the previously placed drug-eluting stent scaffold and postdilated with a 5.0 × 15-mm noncompliant balloon (Fig. 3). Final intravascular ultrasonography imaging was performed that showed well-apposed and well-expanded stents without any evidence of edge dissection. Coronary computed tomography angiography performed a month later showed a widely patent stent that had fully occluded the aneurysm (Fig. 4)

### Abbreviation

LAD, left anterior descending coronary artery

### Supplementary Materials

For supplemental materials, please see the online version of this paper.

## Comment

The management of coronary artery aneurysms is complicated[1] and often requires an individual approach based on numerous patient factors. This article presents a unique interventional method using a stent scaffold for the management of a large, fusiform aneurysm that effectively seals off the aneurysmal section while preserving distal flow.

**Fig. 3:** Post–stent deployment angiogram outlines the sealing of the aneurysm.

*Supplemental motion image available for* Figure 3

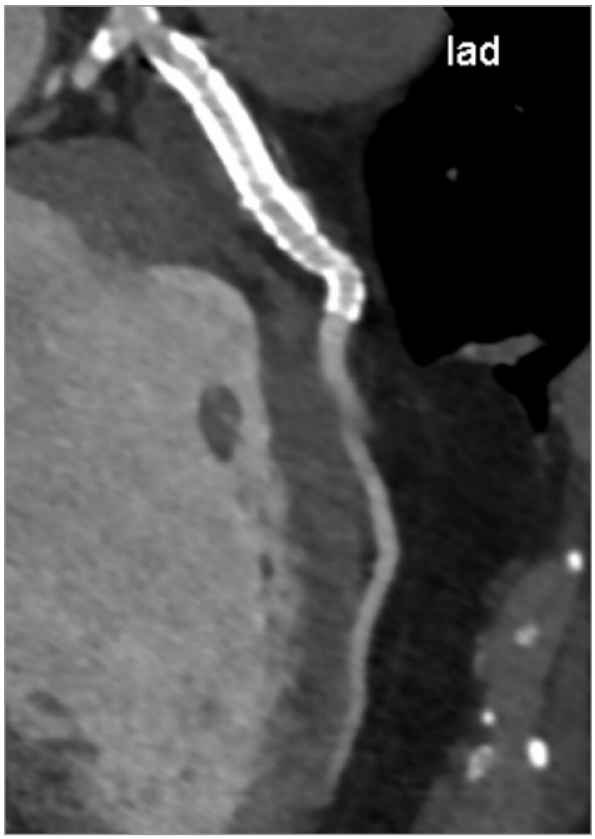


**Fig. 4:** Postprocedural coronary computed tomography angiography outlines the widely patent stent in the left anterior descending coronary artery (LAD) and sealed-off aneurysm.

## Article Information

**Published:** 5 June 2025



**Author Contributions:** R. Annabathula wrote and edited the article. A. Samanta edited the article. D. Chahal was responsible for imaging and video acquisition and editing the article.

**Conflict of Interest Disclosure:** The authors listed above have no relevant disclosures as they pertain to the contents of this case report.

**Funding/Support:** This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## Reference

1. Kawsara A, Núñez Gil IJ, Alqahtani F, Moreland J, Rihal CS, Alkhouli M. Management of coronary artery aneurysms. *JACC Cardiovasc Interv.* 2018;11(13):1211-1223. doi:10.1016/j.jcin.2018.02.041