Optical Coherence Tomography–Guided Full Plastic Jacket in Spontaneous Coronary Artery Dissection

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A healthy 38-year-old woman was hospitalized for an acute coronary syndrome. Coronary angiography revealed a smooth, diffusely narrowed right coronary artery (Figure 1A). With an adequate level of suspicion, optical coherence tomography (OCT) was performed and identified spontaneous coronary artery dissection (SCAD) (Figures 1B and 1C). Contrast injection during optical coherence
tomographic pullback induced distal progression of the dissection with no-flow, angina, and ST-segment elevation (Figure 1D). Percutaneous coronary intervention was undertaken with implantation of 7 sequential bioresorbable vascular scaffolds that were chosen for the theoretical benefit of avoiding late stent malapposition following resorption of intramural hematoma. Final angiography and OCT demonstrated the success of percutaneous coronary intervention, with residual proximal dissection covered by stent struts (Figures 1E to 1H).

OCT is often the preferred modality, as it provides better resolution (1). However, there are several limitations of OCT in SCAD management that are emphasized by this case. Namely, hydraulic extension of coronary dissection precluded a conservative approach. Also, poor tissue penetration prevented accurate measurement of proximal reference diameter to guide angioplasty. IVUS may be a safer alternative diagnostic tool in SCAD. This case also illustrates that “full plastic jacket” stenting offers good acute results in SCAD when intervention is needed.

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