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Visualization and Management of a Distally Embolized Stent After ST-Elevation Myocardial Infarction

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Background:

- Stent embolization is a rare complication in the current era of percutaneous intervention with an incidence as low as 0.3%.¹
- Common causes of this phenomena include dislodgement from the balloon, direct stenting as well as attempting to cross a calcified lesion.²
- Previous methods for removing the embolized stent have included snares, balloons and distal protection devices.³
- “Crush” stenting as well as conservative management have also been advocated.
- Visualization can also be a challenge as angiography and intravascular ultrasound have inherent limitations.

Case Presentation:

- 63 year-old male with a history of tobacco abuse, morbid obesity and hypertension who presented with 4 hours of substernal chest pressure.
- Initial electrocardiogram demonstrated ST-elevation in the inferior leads and he was taken for emergent coronary angiography.
- A severe lesion was seen in the proximal RCA (**Figure 1**) and a Veriflex 5.0 x 16 mm bare-metal stent was placed in the proximal RCA with no angiographically apparent residual stenosis. (**Figure 2**).
- A second stent placement was also attempted in the proximal RCA, however, visualization was noted to be suboptimal due to body habitus.
- Later that day, the patient had recurrent symptoms of chest pain and inferior lead ST-elevations.
- Repeat coronary angiography (**Figure 3**) with the assistance of optical coherence tomography noted that the second RCA stent was partially deployed and had embolized into the PDA. (**Figures 4-5**).

Results:

- The stent was then crushed against the vessel wall with a 2.75 x 23 mm Xience Everolimus eluting stent.
- The embolized stent could not be fully covered with the new stent.
- Optical coherence tomography also visualized a 60% lesion in the deployed RCA stent, which was restented.

Conclusion:

- The patient was discharged two days later in stable condition.
- This case illustrates that optical coherence tomography is a useful tool in visualizing distally embolized stents when limitations make other methods impractical.

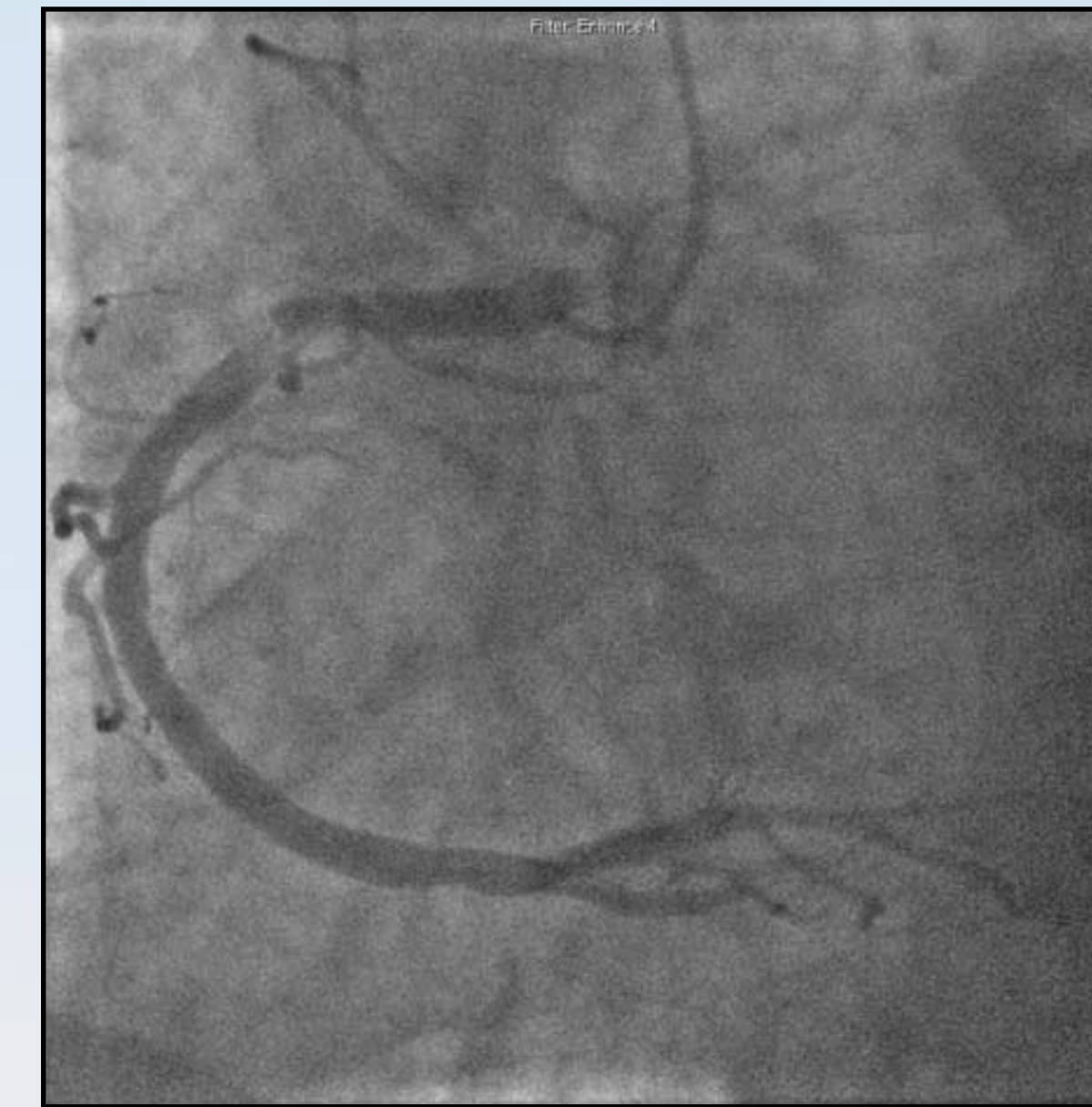


Figure 1 — Initial severe stenosis in the proximal RCA.

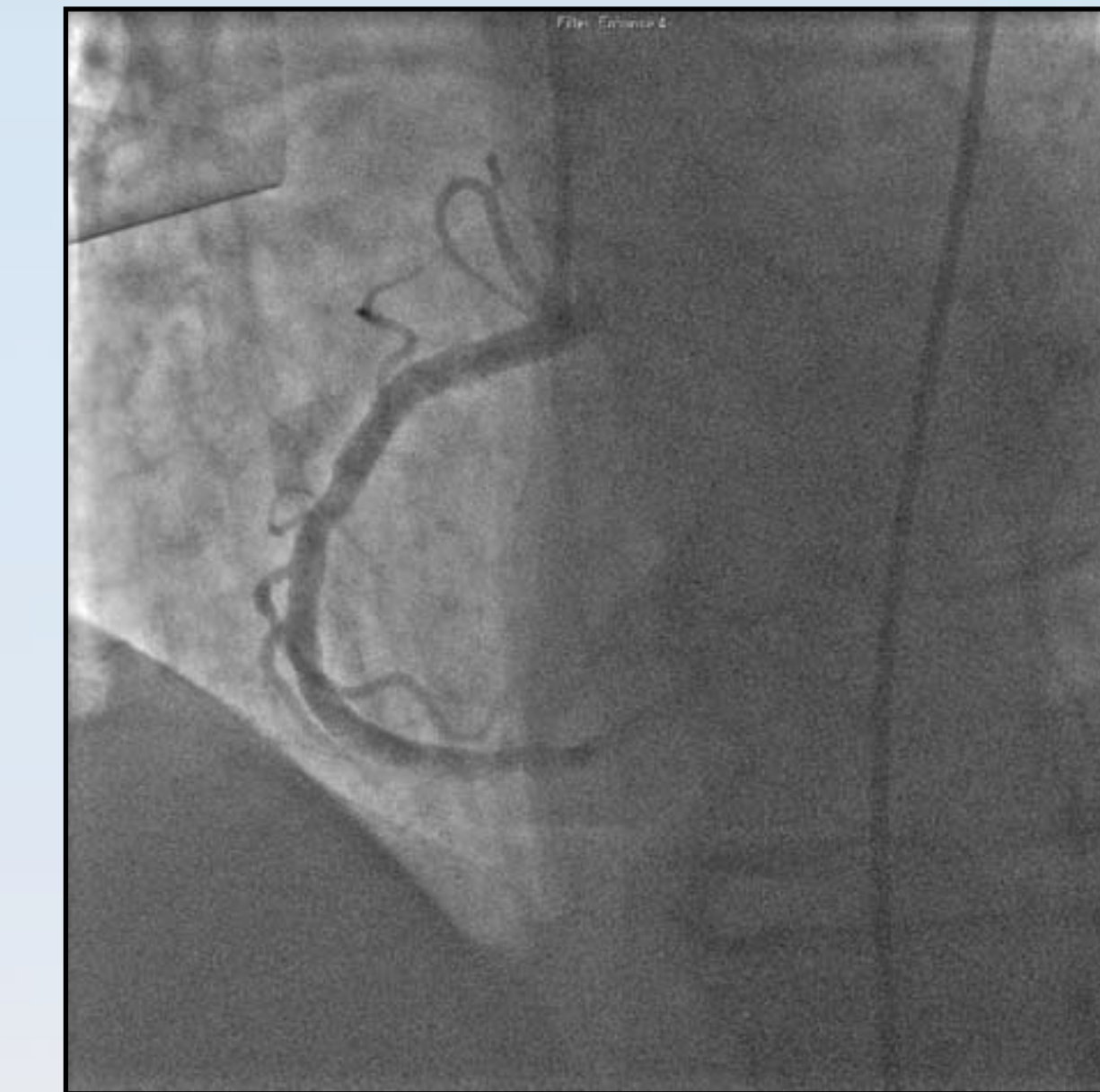


Figure 2 — No apparent residual stenosis in the RCA.

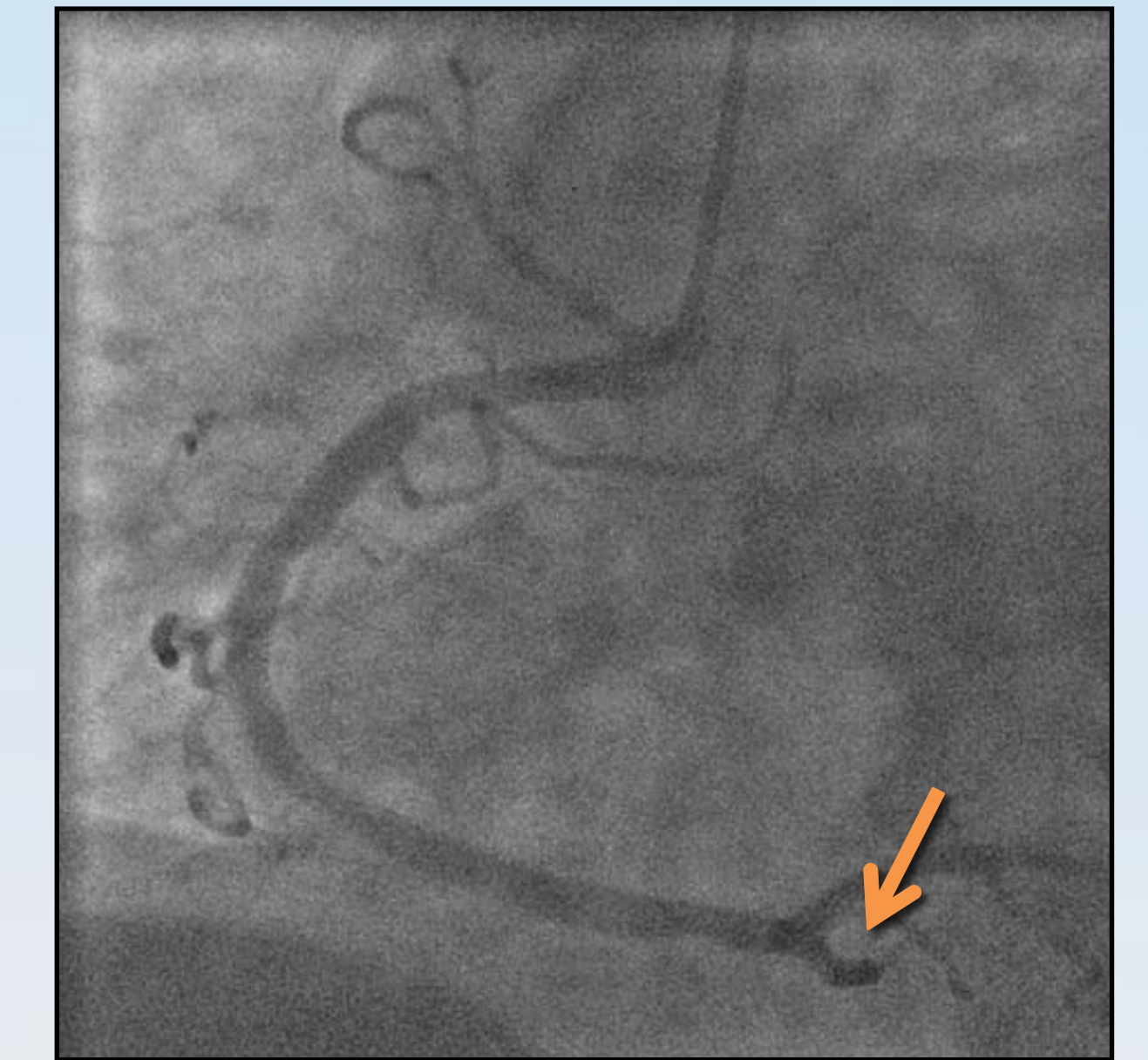


Figure 3 — Angiography demonstrating likely location of stent embolization in the PDA (arrow).

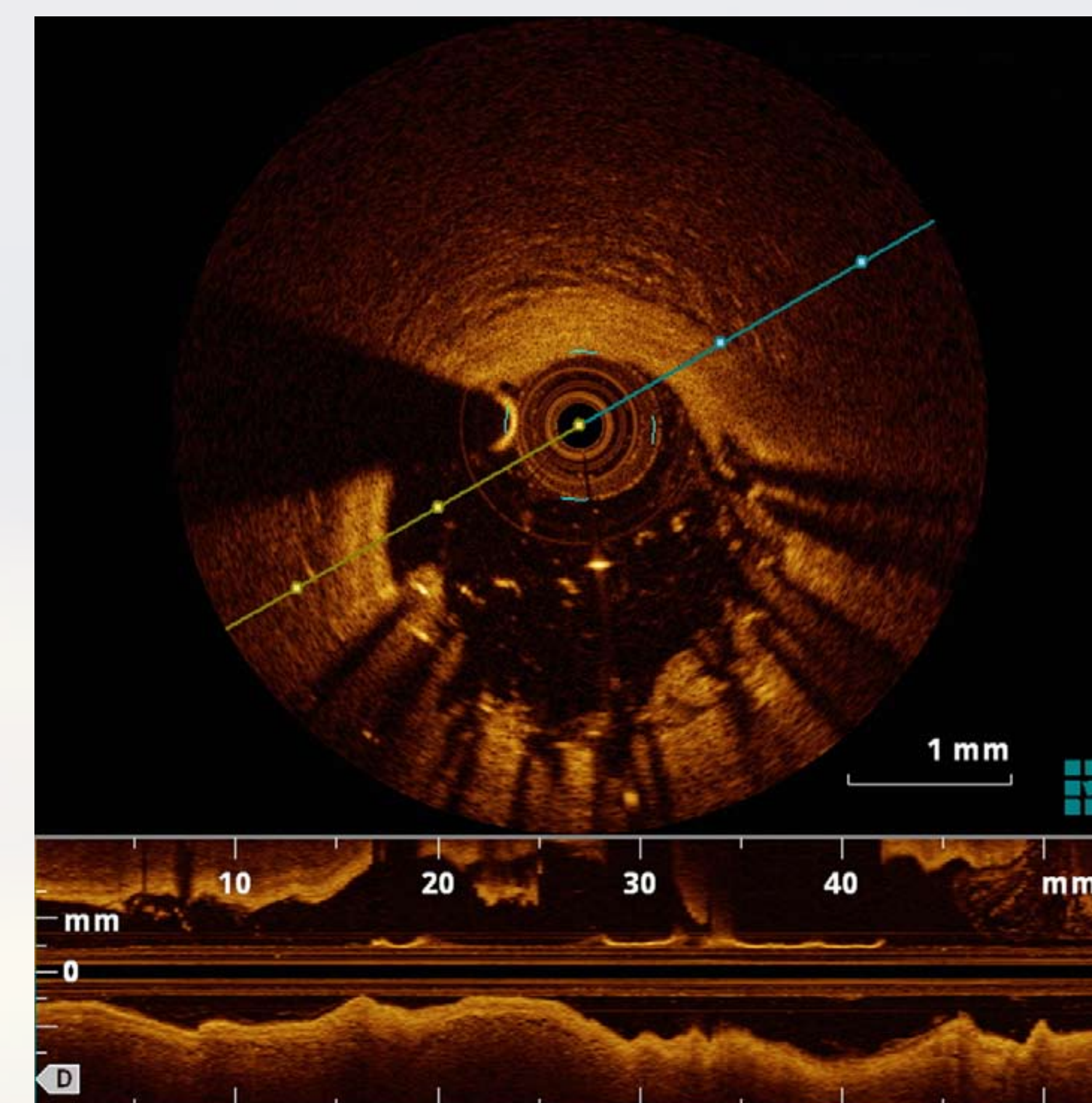


Figure 4 — Optical coherence tomography depicting embolized stent.

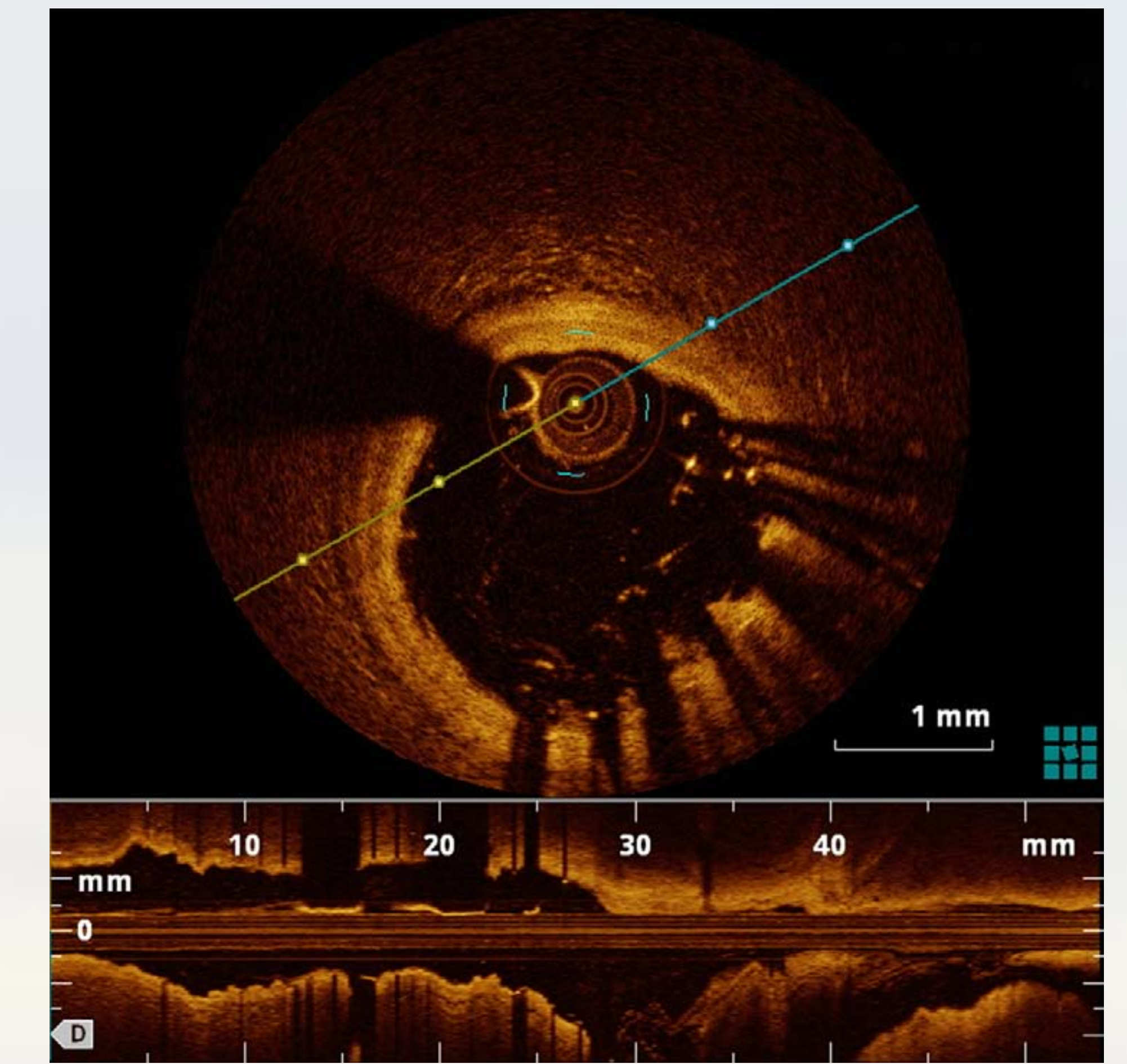


Figure 5 — The full extent of the embolized stent could not be covered.

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- 1 Saleh L. et al. Exp Clin Cardiol 2010; 15(3): e70-2.
- 2 Farman M. et al. J Pak Med Assoc 2010; 60(2): 140-2.
- 3 Guiguari P et. al. J Invasive Card 2005; 17(3).

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