Annals of Clinical Case Reports

Case Report
Published: Jun 26, 2026

The Accordion Effect in Optical Coherence Tomography: Distinguishing Artifact from Pathology

*Anish Adhikari, Caleb Wutawunashe, Arber Kodra and Tak Kwan**

Department of Interventional Cardiology, Lenox Hill Hospital, Northwell Health, New York, United States

Abstract

71-year-old female presented with chest pain. Coronary angiogram demonstrated a 70% stenosis in the proximal RCA. After wiring the RCA with a run through NS extra floppy wire (Terumo) additional lesions were noted. Optical Coherence Tomography (OCT) demonstrated multiple artifacts that mimicked lesions. These lesions improved angiographically and on OCT after exchanging for the Suoh 03 wire (Asahi), a softer wire. This case highlights potential pitfalls in OCT interpretation and strategies to mitigate this.

Keywords: Pathology; Optical coherence tomography; Intravascular imaging

Introduction

A 71-year-old female presented with chest pain. Coronary angiogram demonstrated a 70% stenosis in the proximal RCA (Figure 1A). After wiring the RCA with a run through NS extra floppy wire (Terumo) additional lesions (Figure 1B) were noted. Deep Optical Coherence Tomography (OCT) demonstrated severe stenosis at the lesion.

Case Presentation

Abnormalities correlating to the new lesions in the RCA were seen on OCT. The abnormalities were consistent with artifacts that can mimic pathologic findings due to vessel folding from the accordion effect (Figure 2A-2C).

The wire was exchanged for a Suoh 3 (Asahi) wire, and we provide examples where lesions

Figure 1A: Diagnostic angiogram with lesion. **B:** Image with pseudo lessions woth Runthrough (Terumo) wire. **C:** Pseudo lesions resolved with Suoh 3 (Asahi) wire.

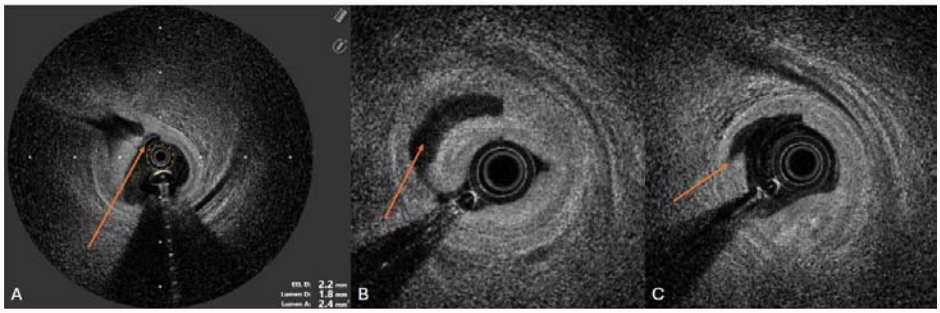

Figure 2A: Artifact mimicking ruptured plaque (orange arrow). **B:** Artifact mimicking medical dissection (orange arrows). **C:** Artifact mimicking intimal dissection (orange arrow).

OPEN ACCESS

Correspondence:
Tak Kwan, Department of Interventional Cardiology, 30 7th Ave, Lenox Hill Hospital, Northwell Health, New York, NY 10011, United States

Received Date: *16 Jun 2026*
Accepted Date: *26 Jun 2026*
Published Date: *27 Jun 2026*

Citation:
Adhikari A, Wutawunashe C, Kodra A, Kwan T. The Accordion Effect in Optical Coherence Tomography: Distinguishing Artifact from Pathology. Ann Clin Case Rep. 2026; 11: 2840.
ISSN: 2474-1655.

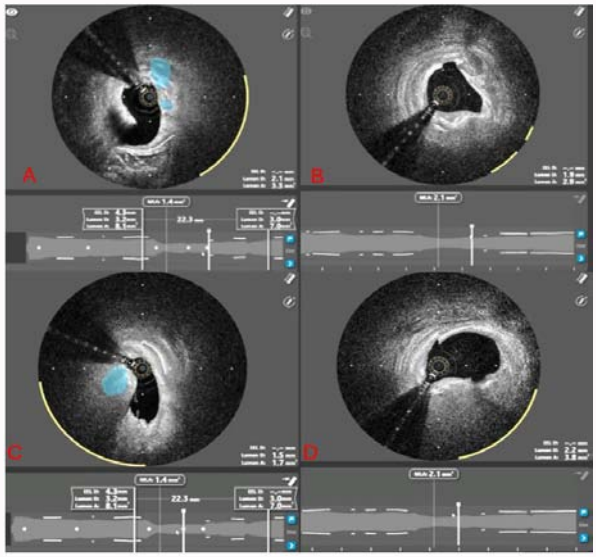

Figure 3A: Pseudo dissection with Runthrough (Terumo) wire. **B:** Pseudo dissection resolved with Suoh 3 (Asahi). **C:** Pesudo nodule seen with Runthrough (Terumo). **D:** Resolved with Suoh 3 (Asahi).

were no longer present. This was consistent with pseudo lesions due to the accordion effect. Angiogram with this softer wire demonstrated excellent results (Figure 1C). In Image 3 we demonstrate resolution of pseudo lesions on OCT using a Suho 3 (Asahi) wire instead of a Run-through (Terumo) wire (Figure 3A-3B).

Discussion

Pseudo lesions occur due to folding of the walls of the coronary artery when a tortuous segment of the artery is straightened out by a wire. These are more prominent with stiffer wires. They can pose a diagnostic challenge to the interventional cardiologist as it can mimic coronary dissections and plaque which may lead to intervention. Pseudo lesions can be diagnosed by removing the wire or intravascular imaging.

However, as we describe here, OCT can mimic pathologic lesions due to the accordion effect.

Conclusion

If there is uncertainty, Intravascular Ultrasound (IVUS) may be required to confirm the findings. Using a less stiff wire may also be helpful such as a Suoh 3.