

## Images in Cardiovascular Medicine



# Optical Coherent Tomographic (OCT) Finding of Radial Arterial Recanalization

Sangmin Kim , MD<sup>1</sup>, Sang Yeub Lee , MD, PhD<sup>1,2</sup>, Yongcheol Kim , MD<sup>3</sup>,  
Dae In Lee , MD<sup>1</sup>, Ju-Hee Lee , MD<sup>1</sup>, Jang-Whan Bae , MD, PhD<sup>1,2</sup>,  
Kyung-Kuk Hwang , MD, PhD<sup>1,2</sup>, and Myeong-Chan Cho , MD, PhD<sup>1,2</sup>

<sup>1</sup>Regional Cardiovascular Disease Center, Chungbuk National University Hospital, Cheongju, Korea

<sup>2</sup>Division of Cardiology, Department of Internal Medicine, Chungbuk National University College of Medicine, Cheongju, Korea

<sup>3</sup>Division of Cardiology, Department of Internal Medicine, Yonsei University College of Medicine and Cardiovascular Center, Yongin Severance Hospital, Yongin, Korea



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### Correspondence to

**Sang Yeub Lee, MD, PhD**

Division of Cardiology, Department of Internal Medicine, Chungbuk National University College of Medicine, 776, 1Sunhwan-ro, Seowon-gu, Cheongju 28644, Korea.  
E-mail: louisahj@gmail.com

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### ORCID iDs

Sangmin Kim   
<https://orcid.org/0000-0002-1300-6079>  
Sang Yeub Lee   
<https://orcid.org/0000-0003-1386-349X>  
Yongcheol Kim   
<https://orcid.org/0000-0001-5568-4161>  
Dae In Lee   
<https://orcid.org/0000-0001-8088-3007>  
Ju-Hee Lee   
<https://orcid.org/0000-0002-0858-0973>  
Jang-Whan Bae   
<https://orcid.org/0000-0003-1362-9804>  
Kyung-Kuk Hwang   
<https://orcid.org/0000-0003-3464-3023>  
Myeong-Chan Cho   
<https://orcid.org/0000-0002-0047-0227>

A 52-year-old man who underwent stent implantation in the coronary artery via right transradial access (TRA) with 6F sheath 10 years ago was admitted to the emergency room due to chest pain. Coronary artery angiography was performed via distal radial access at anatomical snuffbox because of prior history of radial access and chronic kidney disease.<sup>1,2)</sup> When the wire and catheter went up to the radial artery, the operator felt some resistance. After successful primary distal transradial intervention for acute myocardial infarction, angiography at right radial artery via sheath at anatomical snuffbox revealed intraluminal hazziness at radial artery which had been punctured for previous intervention 10 years ago (**Figure 1**). The lesion was examined with optical coherence tomography (OCT; Dragonfly™ OPTIS™ Imaging Catheter; Abbott, Abbott Park, IL, USA, pullback speed: survery mode 36 mm/sec, maximal contrast dose: 8 mL at 4 mL/sec). Because of arterial dissection issue,



**Figure 1.** Radial arterial angiography via sheath at right anatomical snuffbox revealed intraluminal hazziness at previous radial puncture site for transradial intervention 10 years ago.

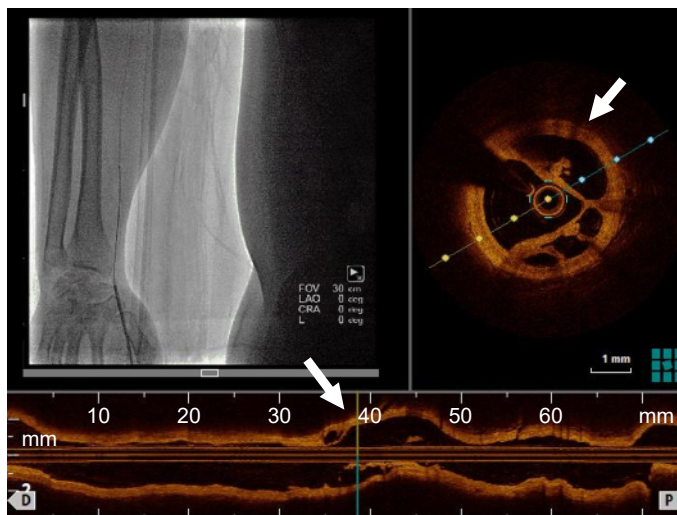
**Conflict of Interest**

The authors have no financial conflicts of interest.

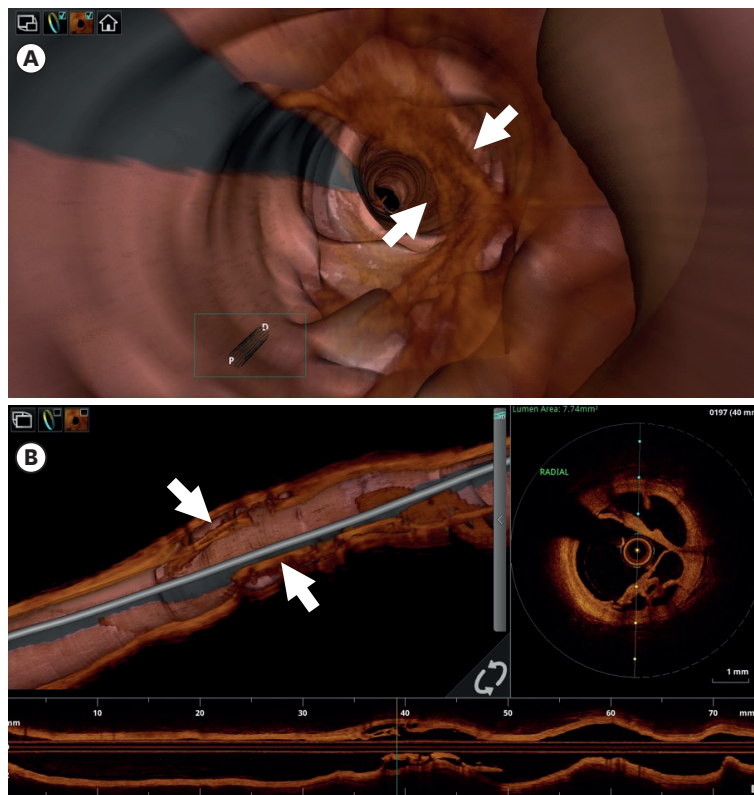
**Author Contributions**

Conceptualization: Lee SY, Kim Y, Lee DI, Bae JW, Cho MC; Supervision: Kim Y, Bae JW, Cho MC; Validation: Lee SY, Lee DI, Lee JH, Hwang KK; Visualization: Lee SY; Writing - original draft: Kim SM, Lee SY; Writing - review & editing: Lee SY.

we reduced contrast volume which purge blood from the lumen. The OCT showed a lotus root-like appearance at the lesion<sup>3)4)</sup> (**Figures 2 and 3**). We guessed this appearance came from stenosis, thrombosis, occlusion reopen at previous puncture site. We believe this findings would be the very first OCT image of spontaneous recanalization of radial arterial occlusion via distal TRA and provide some evidences of occlusion or stenosis caused by puncture trauma and their spontaneous healing process. Two years later, the follow-up ultrasound



**Figure 2.** A tomographic image of recanalized radial artery revealed a lotus root-like appearance. Co-registration image and long view provided the information of lesion location.



**Figure 3.** Three-dimensional reconstruction of the recanalization thrombosis in fly-through mode (A) and in navigation mode (B) of optical coherence tomography image.

image showed a patent radial artery at previous radial puncture site (**Supplementary Video 1**). As solution of this event, balloon angioplasty may be considered via distal radial access.<sup>5)</sup>

## SUPPLEMENTARY MATERIAL

### Supplementary Video 1

The 2 year follow-up ultra-sound image showed a patent radial artery at previous radial puncture site. There were no intraluminal haziness, stenosis and occlusion in ultrasound scan.

[Click here to view](#)

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