



Unexpected abrupt coronary occlusion due to arterial media in upper arm through transradial approach

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Atherosclerotic plaque rupture and resulting intracoronary thrombosis are thought to account for most acute coronary occlusions [1]. The iatrogenic acute coronary occlusion was a rare and serious complication during percutaneous coronary intervention (PCI). This case would demonstrate very uncommon etiology of abrupt coronary occlusion.

A 66-year-old male with uncontrolled diabetes was admitted by congestive heart failure (CHF). After medical treatment for CHF, a diagnostic coronary angiogram would be planned due to left ventricular asynergy by echocardiography, which demonstrated severe stenosis in left anterior descending artery (LAD) and left circumflex artery (Fig. 1a). Elective PCI was planned because the patient refused coronary artery bypass grafting. We started PCI via right radial artery using 7-Fr guiding catheter (EBU3.75, Launcher, Medtronic, USA), because original target lesions were diffuse stenosis with severe calcification in left circumflex artery. When advancing the guiding catheter, we felt some resistance in his right upper arm. Therefore, both 0.035-inch Radifocus guidewire and 0.032-inch Spring guidewire were inserted together as two-wire technique. Finally, we could advance the guiding catheter to the ostium of coronary arteries successfully. We confirmed the inverse blood flow from the guiding catheter and checked the catheter pressure and arterial waveform were normal. The initial angiogram showed TIMI flow grade 0, abrupt occlusion in proximal LAD (Fig. 1b) and soon after that, ST elevation occurred in electrocardiogram. Then he started complaining of severe chest pain and was in a status of cardiogenic shock. We inserted intra-aortic balloon counterpulsation immediately, crossed guidewire to distal LAD. After thrombus aspiration

using aspiration catheter (ThrombusterII, Kaneka Medical Products, Osaka, Japan), TIMI flow grade 3 was acquired by angiography. Although the aspirated material was a big white one, it did not seem like a thrombus (Figure C). After placing drug-eluting stents successfully, the patient's hemodynamics became stable and his electrocardiogram was normalized.

Pathological diagnosis confirmed that aspiration material was tunica intima and tunica media with smooth muscle cells in muscular artery (Fig. 1d). We hypothesized that the guiding catheter while advancing it stripped off the arterial media of the right upper arm and the stripped media was pushed into the LAD from the guiding catheter during the first angiogram, and then occluded in proximal LAD suddenly.

This case illustrates very unusual etiology of acute coronary occlusion through transradial approach. Moreover, this report suggests that the PCI operator should be carefully managed when there is a feeling of resistance in access root.

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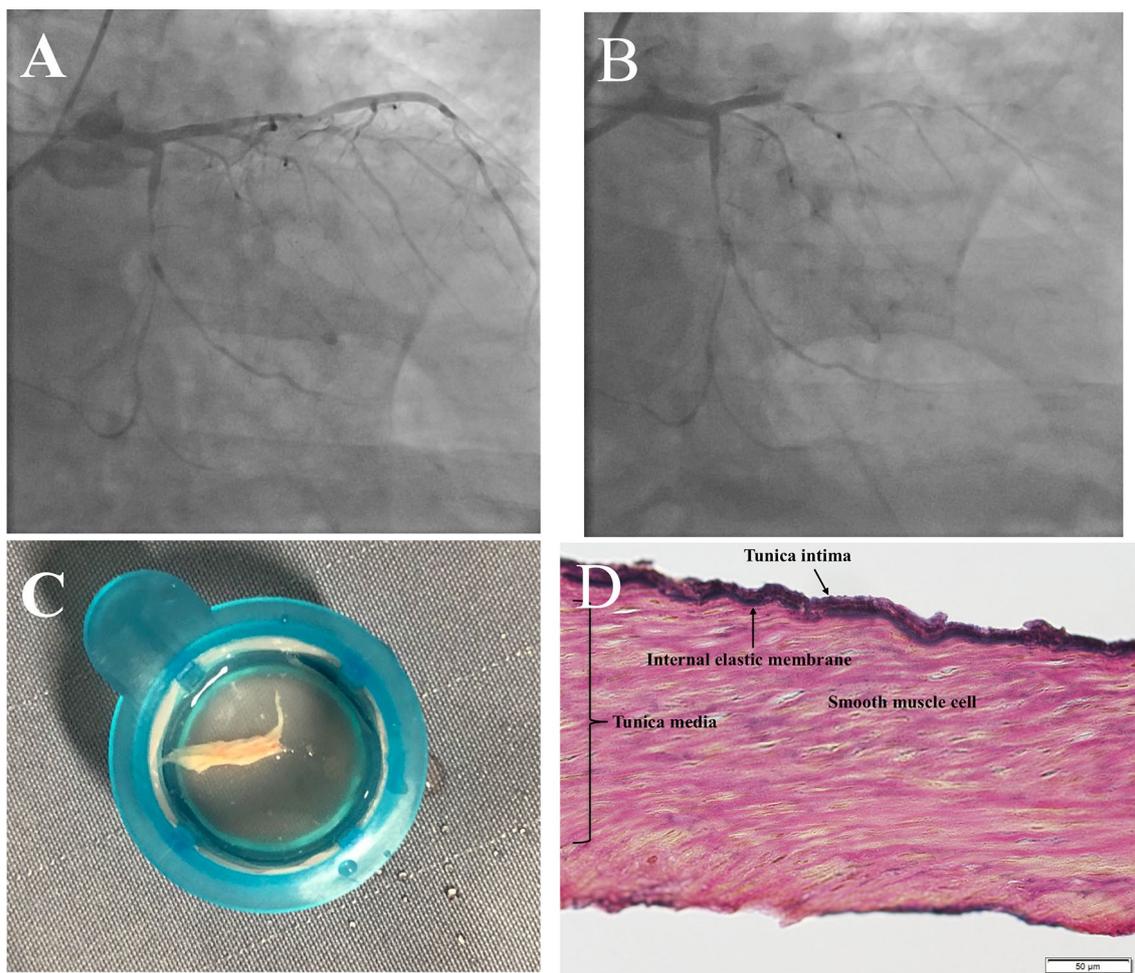


Fig. 1 **a** Diagnostic angiogram. **b** Initial angiogram at percutaneous coronary intervention. **c** Aspirated materials using aspiration catheter from left anterior descending artery. **d** Pathological findings showed

a part of muscular vessel including tunica intima, tunica media with smooth muscle cells (Elastica van Gieson stain, $\times 400$)

Compliance with ethical standards

Conflict of interest All authors have no conflict of interest to declare.

Research involving human participants and/or animals For this type of study, formal consent is not required.

Informed consent Additional informed consent was obtained from all individual participants for whom identifying information is included in this article.

Reference

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