POLISH HEART JOURNAL

Kardiologia Polska
The Official Peer-reviewed Journal of the Polish Cardiac Society since 1957

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ISSN 0022–9032 e-ISSN 1897–4279

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Authors: Kamil Banasik, Rafał Celiński, Marcin Łubiarz

Article type: Clinical vignette

Received: September 17, 2024

Accepted: November 13, 2024

Early publication date: November 14, 2024

Left coronary artery embolism as a complication of radial access

Kamil Banasik, Rafał Celiński, Marcin Łubiarz

Department of Cardiology, Specialist Hospital in Chelm, Chełm, Poland

Correspondence to:
Kamil Banasik, MD,
Department of Cardiology,
Specialist Hospital in Chelm,
Ceramiczna 1, 22–100 Chełm, Poland,
phone: +48 82 562 32 77,
e-mail: kamil1.16@o2.pl

Radial access for coronary angiography and percutaneous coronary intervention was introduced around 30 years ago. Due to its lower complication rate and increased patient comfort, this method of catheter insertion has become the preferred approach over the previously favored femoral access. However, it is essential to acknowledge that even this relatively safe route can lead to potentially severe complications. [1–3]

We present the case of a 72-year-old female patient admitted to the Cardiology Department for a planned coronary angiography due to CCS II angina pectoris. Her medical history includes hypertension, dyslipidemia, and prior angioplasty of the left anterior descending coronary artery, in which an antiproliferative stent was implanted 5 years earlier.

The coronary angiography procedure was performed *via* right radial access. After passing the guidewire and then the right diagnostic catheter (Boston Scientific Impulse; JR 4.0 6F), angiography of the right coronary artery was performed, without finding any significant angiographic changes. After replacing the catheter with a left one (Boston Scientific Impulse; JL 3.5 6F) and administering contrast, occlusion of the left anterior descending coronary artery was revealed with an image that could suggest embolism. During this maneuver, the patient reported chest pain, and ventricular arrhythmias (non-sustained ventricular tachycardia, isolated ventricular extrasystoles) were recorded on the monitor — symptoms not previously noted. Urgent intervention was undertaken. After replacing the diagnostic catheter with a guiding one (Medtronic Launcher; EBU 3.5 6F), a guide wire was introduced into the anterior descending

branch and aspiration thrombectomy was performed. Control contrast injection revealed normal flow in the vessel. Diagnostics were extended with intravascular ultrasonography (Philips Volcano), which revealed malposition of the previously implanted stent (MLA 3.3 mm²; vessel diameter 3.7 mm) and a normal image of the remaining part of the vessel. Balloon angioplasty was performed using a NC 3.5/15 mm catheter expanded to 20 atm. MLA in IVUS after the procedure was 9.2 mm². The material obtained from aspiration thrombectomy revealed a fragment of vascular endothelium approximately 3 cm long, most likely originating from damage to the radial artery during insertion of the left diagnostic catheter. During subsequent observation, the patient remained stable, with no recurrence of angina. A small hematoma developed in the forearm, but control ultrasound confirmed normal flow in the right radial artery. Antiplatelet therapy with aspirin and clopidogrel was administered. The patient was discharged in good general condition with a recommendation for continued outpatient monitoring. She was also referred to a rheumatology clinic for further evaluation regarding potential vasculitis or systemic connective tissue disease.

The radial artery is the primary access site for percutaneous coronary interventions in most centers worldwide due to its favorable safety profile over femoral access. Nonetheless, awareness of potential complications is crucial, and appropriate caution is essential during the procedure. [1, 4, 5]

Article information

Conflict of interest: None declared.

Funding: None.

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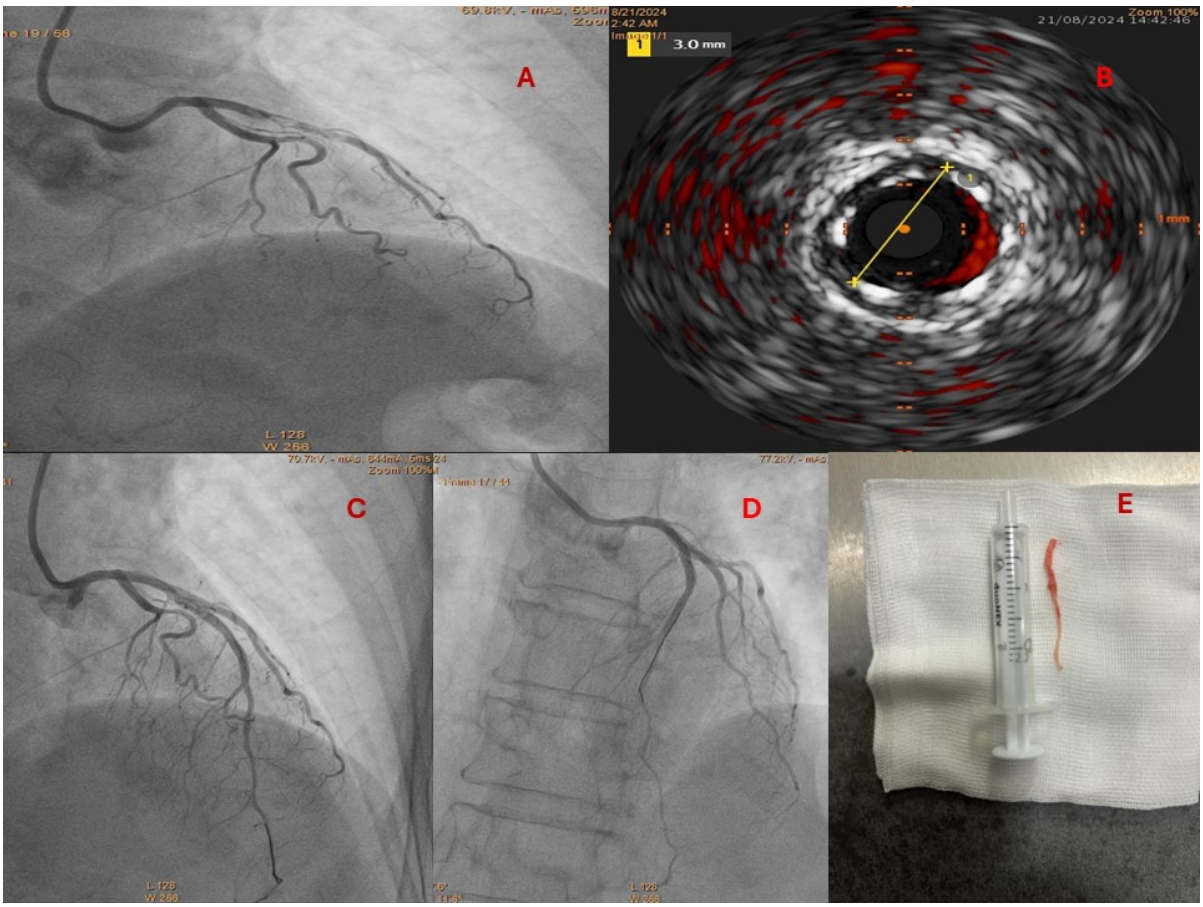

Figure 1. A. Occlusion of the anterior descending branch. **B.** Intraventricular ultrasound — malposition of the stent in left anterior descending. **C.** Percutaneous coronary intervention procedure. **D.** Final effect. **E.** Embolic material