

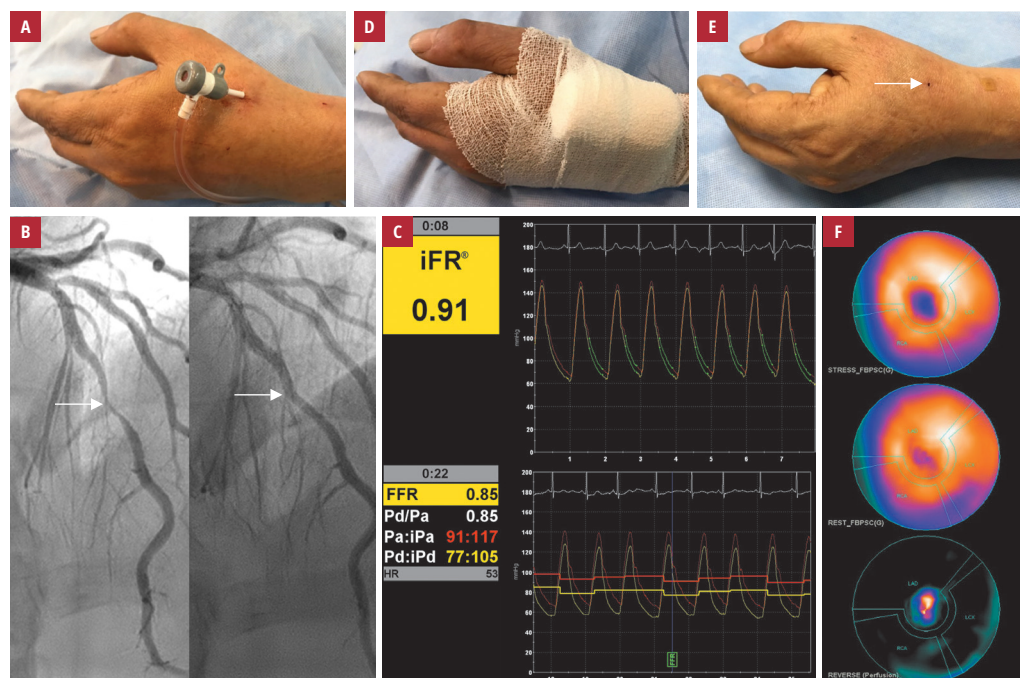
# Invasive physiological assessment of myocardial bridge via the left snuffbox approach

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A 59-year-old man presented with a 1-day history of intermittent angina. Electrocardiography and the measurement of cardiac biomarker levels were unremarkable. Because the patient was a painter and frequently used his right wrist, we performed coronary angiography via the left distal radial artery, called the snuffbox approach,

using a 5-French sheath (FIGURE 1A; Supplementary material, Video S1). It revealed a myocardial bridge (MB)-induced total occlusion of the mid left anterior descending artery (LAD) during systole (FIGURE 1B; Supplementary material, Video S2). To evaluate the severity of the MB-related ischemia, a physiological assessment of the LAD-MB



**FIGURE 1** **A** – inserted 5-French sheath via the left snuffbox approach; **B** – coronary angiography demonstrating myocardial bridge of the mid left anterior descending artery (arrows); **C** – instantaneous wave-free ratio of 0.91 (upper panel) and fractional flow reserve of 0.85 (lower panel); **D** – hemostasis by bandage compression; **E** – no complication at the puncture site after 2-hour hemostasis (arrow); **F** – myocardial perfusion single-photon emission computed tomography demonstrating small reversible perfusion defects in the apex

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was performed, which revealed an instantaneous wave-free ratio of 0.91 and a fractional flow reserve of 0.85 during hyperemia (FIGURE 1C). No bleeding occurred at the puncture site after 2-hour hemostasis by bandage compression (FIGURE 1D and 1E). The following day, myocardial perfusion single-photon emission computed tomography revealed small reversible perfusion defects in the apex (FIGURE 1F). Therefore, based on the findings of invasive and noninvasive physiological assessments, we decided on pharmacological treatment for MB-related ischemia. A treadmill test demonstrated good exercise tolerance after 3 months of  $\beta$ -blocker use (13.7 metabolic equivalents).

Data on the association between MB and myocardial ischemia are limited because MB is traditionally considered a benign congenital coronary artery anomaly.<sup>1</sup> Moreover, the snuffbox approach has been increasingly used by interventional cardiologists.<sup>2-5</sup> Our report highlights the possibility of invasive functional evaluation of MB-related ischemia, especially in systolic total occlusion, and the feasibility of the snuffbox approach as the access route for the functional assessment of coronary lesion with instantaneous wave-free ratio or fractional flow reserve.

#### SUPPLEMENTARY MATERIAL

Supplementary material is available at [www.mp.pl/kardiologiapolska](http://www.mp.pl/kardiologiapolska).

#### ARTICLE INFORMATION

**CONFLICT OF INTEREST** None declared.

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