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Percutaneous coronary intervention with distal radial approach in patients with acute myocardial infarction

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Background
The distal radial approach for coronary catheterization is a newly introduced alternative to conventional radial approach that is expected to decrease the incidence of haemorrhagic complications and enhance patient comfort. However, a paucity of data exists regarding its application in patients with acute myocardial infarction (AMI).

Purpose
This study aimed to assess the feasibility and safety of the distal radial approach for primary percutaneous coronary intervention (PCI) for patients with AMI.

Methods
Forty-two consecutive patients with AMI who underwent primary PCI between April 2018 and September 2018 were included. The distal radial approach was used as a primary approach, whenever feasible.

Results
Needle puncture for the distal radial artery was attempted in 37 of the 42 patients in this study; of these, cannulation was successful in 36 (97.3%). In the patient where the initial attempt failed, the approach site was switched to the forearm radial artery and cannulation was successful. The conventional radial approach was used as the primary approach site in 5 patients in whom the pulse could not be detected in the distal radial artery.

For patients in whom cannulation in the distal radial artery was successful, a 6-French sheath (conventional or slender) was introduced for primary PCI, which was successful in all patients. The average time to achieving haemostasis was 7.9 ± 6.6 hours; there were no major bleeding complications. According to the EASY hematoma scale, grade I, II, and III subcutaneous haemorrhages were observed in 8 (24.2%), 4 (12.1%), and 1 (3.0%) patient, respectively. No patient had a hematoma > grade IV.

In 26 patients with ST-segment elevation myocardial infarction who underwent distal radial cannulation, the mean door-to-balloon time was 47.2 ± 30.1 minutes and the mean puncture-to-balloon time was 18.4 ± 11.1 minutes.

Conclusions
Our results suggest that the distal radial approach is feasible and safe for primary PCI in selected patients with AMI. However, further studies are required to validate our findings.