





# Medium-term clinical outcomes after IVUS-guided PCI in complex coronary artery disease

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**KEYWORDS:** coronary disease, intravascular imaging, complex percutaneous coronary intervention.

**CITATION:** *Cardiol Croat.* 2024;19(11-12):481. | <https://doi.org/10.15836/ccar2024.481>

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**Introduction:** Intravascular ultrasound (IVUS) complements coronary angiography in treating complex coronary lesions. Several studies have demonstrated improved outcomes after IVUS-guided percutaneous coronary intervention (PCI).<sup>1-3</sup> Since there is a paucity of published data about IVUS-guided PCI in our country, we sought to investigate clinical outcomes in our center since 2022.

**Methods:** We conducted an observational cohort study of IVUS-guided PCI. All patients were >18 years of age. We included patients with both acute and chronic coronary syndromes. PCI was performed using proximal radial, distal radial, ulnar or femoral access. Coronary lesions were treated as per operator preference and IVUS was used in all procedures. Dual antiplatelet therapy was provided according to ESC guidelines. Complex coronary artery disease was defined as left main stem PCI, bifurcation lesions, long lesions requiring stents of >33 mm, multivessel PCI, heavily calcified lesions, in-stent restenosis (ISR) or aorto-ostial lesions. Statistical analysis was performed using IBM SPSS Statistics v.23.

**Results:** A total of 79 patients were included, with an average age of 66.8 years, 83% male and 17% female, with a median follow-up of 12.4 months. The prevalence of hypertension was 90%, diabetes 37%, chronic kidney disease 13% and atrial fibrillation 22%. Patients with chronic coronary syndromes comprised 66% of the cohort, 27% were smokers and 8% had previous coronary artery bypass grafting. The average left ventricular ejection fraction measured by Simpson's BP was 47.7%. Proximal radial access was used in 72% of cases, distal radial in 11%, femoral in 14% and ulnar in 2%. The left main coronary artery was treated in 48% of patients, 56% had bifurcation lesions and 53% had lesions longer than 33 millimeters. Drug-coated balloons were used in 8% of cases, 30% had PCI with 2 or more stents. Aorto-ostial lesions were treated in 18% and 71% of patients had calcified lesions. Clopidogrel was administered in 19% of cases, ticagrelor in 65% and prasugrel in 14%. Two periprocedural complications occurred (3%). The 30-day mortality was 4% (3 patients), while mortality during follow-up was 5% (4 patients). One patient had a myocardial infarction (1%) and there were no documented target lesion failures of strokes in the cohort.

**Conclusion:** Intravascular ultrasound is essential in ensuring optimal PCI results and reduction in cardiovascular outcomes in complex coronary artery disease.

RECEIVED:  
October 12, 2024

ACCEPTED:  
October 31, 2024



## LITERATURE

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