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TCT-171

Predicting the Risk of Perforation Requiring Pericardiocentesis in Chronic Total Occlusion Percutaneous Coronary Intervention: The PROGRESS-CTO Pericardiocentesis Score



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BACKGROUND Estimating the risk for complications facilitates risk-benefit assessment and procedural planning in chronic total occlusion (CTO) percutaneous coronary intervention (PCI).

METHODS We analyzed the PROGRESS-CTO (Prospective Global Registry for the Study of Chronic Total Occlusion Intervention; NCT02061436) and created a risk score for pericardiocentesis. Patients with histories of coronary artery bypass graft surgery were excluded. Logistic regression prediction modeling was used to identify independently associated variables, and the model was internally validated with bootstrapping.

RESULTS Of the 7,672 CTO PCI cases performed between 2012 and 2022 at 40 centers, 83 (1.1%) required pericardiocentesis. The final prediction model identified predictors of pericardiocentesis: age \geq 65 years (OR: 2.10; 95% CI: 1.27-3.46), 1 point; female sex (OR: 2.25; 95% CI: 1.39-3.63), 1 point; moderate to severe calcification (OR: 3.28; 95% CI: 1.96-5.49), 1 point; antegrade dissection re-entry (OR: 2.83; 95% CI: 1.45-5.51), 1 point; and retrograde strategy (OR: 3.50; 95% CI: 2.08-5.87), 2 points; with a bootstrap corrected C statistic of 0.78 (95% CI: 0.72-0.83). The calculated risk percentages for pericardiocentesis on the basis of the PROGRESS-CTO mortality score ranged from 0.18% to 8.74% for pericardiocentesis, and 55% of patients had PROGRESS-CTO pericardiocentesis scores of 1 or 2, corresponding to a pericardiocentesis risk of 0.4% to 1.6% (**Figure 1**).

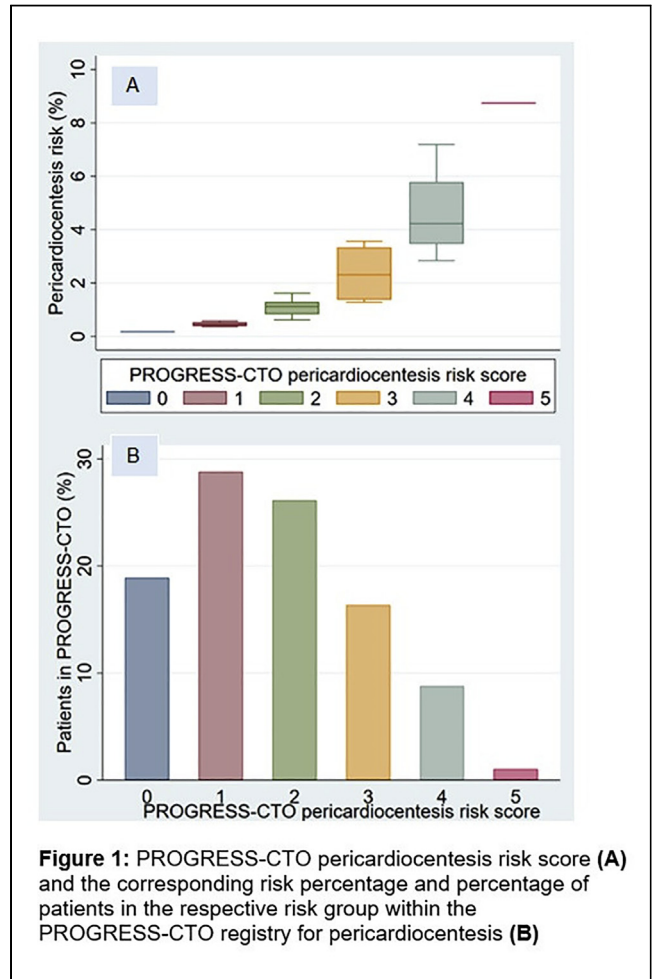


Figure 1: PROGRESS-CTO pericardiocentesis risk score (A) and the corresponding risk percentage and percentage of patients in the respective risk group within the PROGRESS-CTO registry for pericardiocentesis (B)

CONCLUSIONS The PROGRESS-CTO pericardiocentesis risk score can facilitate risk-benefit assessment and procedural planning in patients undergoing CTO PCI.

CATEGORIES CORONARY: Complex and Higher Risk Procedures for Indicated Patients (CHIP)

TCT-172

Coronary In-Stent Restenosis Treatment-Related Perforations Are Relatively Benign



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BACKGROUND Prognosis and treatment of coronary perforations during percutaneous coronary intervention is based largely on Ellis grade and whether they are wire induced. We sought to test the hypothesis, driven by limited anecdotal observations, that in-stent restenosis (ISR) perforations are usually benign.

METHODS Our institutional percutaneous coronary intervention database was queried for all perforations between 2000 and 2021, which were divided into ISR related (within 5 mm of the edges of the restenotic stent) and not ISR related. Cases were reviewed by the angiography core laboratory. Distal wire-induced perforations were excluded. ISR perforations were matched by date 1:2 with non-ISR perforations to ensure matched availability of treatments (eg, Papyrus). The prespecified primary outcome was clinical tamponade, with the McNemar test (paired chi-square) used to assess statistical significance. Baseline characteristics and outcomes are shown.

RESULTS See table.