

CRT-100.78

ACE Inhibitors and ARBs In Post-percutaneous Coronary Intervention Contrast-induced Nephropathy (CIN): To Hold or Not to Hold?



Sagger Mawri, Alexander Michaels, Joesph Gibbs, Assad Nakhle, Saba Assar, James Novak, Bryan Zweig
Henry Ford Hospital, Detroit, MI

BACKGROUND Contrast-induced nephropathy (CIN) is a frequent adverse outcome from percutaneous coronary intervention (PCI). It is common practice to hold angiotensin-converting enzyme inhibitors (ACEI) and angiotensin receptor blockers (ARB) in patients who develop CIN, with the intention to resume as outpatients. This study investigated whether discontinuation of ACEI/ARB in post-PCI CIN was associated with differences in major adverse cardiac or cerebral events (MACCE) and initiation of hemodialysis (HD).

METHODS We performed a retrospective study of 414 patients who underwent PCI from 2008 to 2013 and developed CIN, defined as an increase in serum creatinine level of 0.5 mg/dl or 25% from baseline at 48-72 hours after contrast exposure. One hundred fifty-one patients were identified after excluding those who did not meet the criteria for CIN or were not taking ACEI/ARB prior to hospitalization. Chi-square, Fisher's exact, and Wilcoxon rank-sum tests were used to analyze differences in MACCE or HD between post-PCI CIN patients who continued versus discontinued ACEI/ARB. Cox regression analysis was used to assess ACEI/ARB continuation status as a predictor of MACCE or HD.

RESULTS Among the 151 patients with CIN, 77 (51%) had their ACEI/ARB continued at hospital discharge, 47 (31%) had their ACEI/ARB discontinued, and 27 (18%) died during hospitalization. There were no significant differences in MACCE or HD between patients in the ACEI/ARB continuation versus discontinuation groups at 1 year of follow-up; however, there was a trend toward more PCI in patients who discontinued ACEI/ARB (17% versus 6.5%, $p = 0.076$). Cox regression analysis demonstrated that continuation of ACEI/ARB at hospital discharge was not a statistically significant predictor of MACCE or HD at 1 year of follow-up.

CONCLUSION In patients with CIN after PCI, there is no benefit from holding ACEI/ARB at hospital discharge. Further prospective studies should be performed to confirm these findings.

CRT-100.79

Impact on Clinical Decision-making Process of Two Formulas to Calculate Diameter Stenosis of Coronary Lesions: From Benchmark to Real Cases

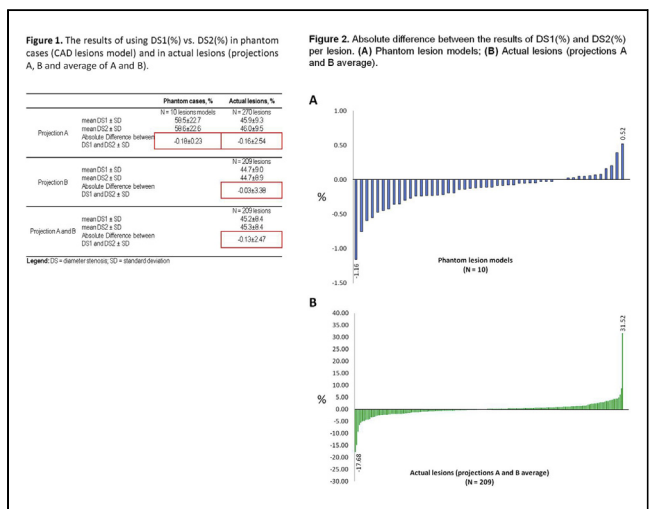


Alexandre Hideo-Kajita, Viana Azizi, Yael F. Meirovich, Gebremedhin D. Melaku, Kayode O. Kuku, Aaphtaab Dheendsa, Solomon S. Beyene, Echo J. Bratwaite, Yuichi Ozaki, Sameer Desale, Ron Waksman, Hector M. Garcia-Garcia
-MedStar Health Research Institute and MedStar Cardiovascular Research Network, Washington, DC

BACKGROUND The 2016 American guidelines for percutaneous revascularization recommend treatment of coronary artery lesions based on diameter stenosis (DS). However, due to the high inter-operator variability in the visual assessment of DS, quantitative coronary analysis (QCA) is the gold standard to assess it. Moreover, there are two DS formulas currently in use, which either use the average of the reference segments (DS1%) or the interpolated reference vessel diameter (DS2%). The aim of this study is to evaluate the difference between DS1% and DS2% assessed by QCA in two datasets, phantom lesion model (i.e., controlled ideal scenario) and actual coronary lesions.

METHODS/RESULTS Ten phantom lesion models and 209 intermediate coronary lesions (i.e., DS of 40-80%) from the FIRST trial cohort were assessed by QCA following Corelab standards. The results are presented in Figure 1. Of note, the range of the absolute difference between DS1 vs. DS2 results went from -1.16% to 0.52% in the phantom lesion models, and in the actual lesions dataset the range went from -17.68% to 31.52% (projections A and B) (Figure 2).

CONCLUSION The variability of the absolute differences, expressed as standard deviation (SD), of different DS formulas revealed a very narrow range in the phantom lesion model, while the opposite was observed with regard to the SD in the actual cases. Similarly, the range of the differences between DS1 and DS2 was larger in the actual cases compared to the narrow range of the phantom. Clinician and researchers need to be aware of these important differences in results (using different formulas) when looking at the diameter stenosis results.



CRT-100.80

Race, Contrast-induced Nephropathy and Long-term Outcomes After Coronary and Peripheral Angiography and Intervention



Samuel P. Powell,¹ Dennis A. Hopkinson,¹ Raveen Chawla,¹ Wendy Bottinor,¹ Jeremy Turlington,¹ Kalpesh Patel,¹ Peter Danyi,² Victoria C. Garcia,¹ Adam Sima,¹ Ion S. Jovin¹
¹Virginia Commonwealth University, Richmond, VA; ²Veterans Affairs Medical Center, Salem, VA

BACKGROUND Contrast-induced nephropathy (CIN) is a complication of diagnostic angiography and percutaneous coronary and endovascular intervention. It is associated with diabetes and chronic kidney disease, both diseases which are associated with poorer outcomes in non-Caucasians. We investigated the effect of race on the development of CIN.

METHODS We studied 4070 predominantly (98%) male patients undergoing peripheral and coronary angiography and percutaneous coronary and endovascular intervention at a Department of Veterans Affairs medical center. We analyzed the incidence of CIN at 72 hours, of renal dysfunction at 3 months as well as the incidence of hemodialysis and of death. CIN was defined as either a rise in creatinine of 25% or an absolute rise in creatinine of 0.5 mg/dl.