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AVERAGE CLINICIAN MEASURED BLOOD PRESSURE PREDICT CARDIOVASCULAR OUTCOMES IN PATIENTS WITH TYPE 2 DIABETES FOLLOWING ACUTE CORONARY SYNDROMES IN THE EXAMINE TRIAL

Moderated Poster Contributions
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Background: While there has been recent interest in lowering the goal systolic blood pressure (BP) in patients with hypertension, little is known about the safety of lower BPs in very high risk patients.

Methods: We evaluated cardiovascular (CV) event rates in EXAMINE, a CV outcomes safety trial in 5380 patients with type 2 diabetes following acute coronary syndrome (ACS) (mean, 45 days) randomized to the dipeptidyl peptidase 4 inhibitor alogliptin or placebo according to average follow-up systolic BP. Major adverse CV events (MACE) were independently adjudicated. The risk of MACE was analyzed using a Cox proportional hazards model with adjustment for baseline covariates in 10 mmHg increments of clinician-measured SBP from < 100 to > 160 mmHg) averaged during the 24 months of post-randomization period. Based on recent ACC/AHA/ASH guidelines, the SBP decile of 130 to 139 mmHg was the reference group.

Results: Compared to SBPs of 130-139 mmHg, adjusted hazard ratios (HRs) for MACE and for CV death or heart failure were significantly higher in patients with SBPs below 120 mmHg and for SBPs greater than 150 mmHg. [Table]

SBP group (mmHg)	Number of patients	Incident rate for MACE (%)	Adjusted MACE HR (95% CI) for average on treatment BP*	Incident rate for CV death or heart failure (%)	Adjusted CV death or heart failure HR (95% CI) for average on treatment BP*
< 100	49	26.5	2.4 [1.2, 5.0]	42.4	11.0 [5.7, 21.4]
100 to 109	224	25.2	3.2 [2.2, 4.7]	21.6	5.5 [3.5, 8.8]
110 to 119	851	11.5	3.9 [2.6, 5.9]	8.4	1.8 [1.2, 2.6]
120 to 129	1619	11.3	1.3 [0.9, 1.7]	7.3	1.4 [1.0, 1.9]
130 to 139	1519	12.1	**reference**	6.9	**reference**
140 to 149	731	13.3	1.0 [0.7, 1.3]	8.9	1.2 [0.8, 1.7]
150 to 159	276	25.0	2.0 [1.4, 2.7]	12.8	1.9 [1.2, 2.9]
≥ 160	111	35.9	2.3 [1.5, 3.5]	15.8	1.5 [0.8, 2.9]
*adjusted for age, kidney function, geographic region, smoking status, history of heart failure, hypertension, prior MI, peripheral arterial disease, diabetes medications, diabetes duration, and treatment assignment (aloglipin or placebo)					

Conclusions: In patients with type 2 diabetes and recent ACS, clinician-measured systolic BPs < 120 mmHg on treatment were associated with poor CV outcomes. Modestly worse outcomes were also observed when average post-randomization BPs were > 150 mmHg. The 2015 ACC/AHA/ASH BP guidelines appear appropriate for very high risk patients with ACS.