Long-term Cardiovascular Effects of 4.9 Years of Intensive Blood Pressure Control in Type 2 Diabetes Mellitus: The Action to Control Cardiovascular Risk in Diabetes Follow-On Blood Pressure Study

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Background: In the Action to Control Cardiovascular Risk in Diabetes Blood Pressure (ACCORD BP) trial a median of 4.9 years of intensive (systolic BP [SBP] <120 mm Hg) versus standard (SBP <140 mm Hg) BP lowering reduced stroke but not mortality or the primary cardiovascular (CV) outcome (nonfatal MI, nonfatal stroke, or CV death) in 4733 people with type 2 diabetes (T2DM) and high CV risk.

Hypothesis: The ACCORD Follow-On (ACCORDION) study assessed the long-term effect of this intervention on the incidence of CV events or death.

Methods: Cox regression analyses were conducted using an intention-to-treat approach for all randomized participants; those who died or declined further follow-up were censored at the most recent time for which data were available.

Results: A total of 3957 (87% of participants alive at ACCORD’s end) were followed after the trial ended. ACCORDION participants were younger and healthier than non-participants. At trial close-out, mean SBP was 119 vs 134 mm Hg in the intensive and standard groups, respectively. The mean between group difference was 14.5 mm Hg. Two to five years after the end of trial, mean SBP was 130 vs 134 mm Hg in the intensive and standard groups, respectively, for an average difference of 4.2 mm Hg. During a median follow-up period of 8.8 years from randomization, the annual rate of the primary outcome (composite of nonfatal MI or stroke or CV death) was 2.03% in the intensive group and 2.22% in the standard group and hazard ratios (CI, p value) for incident outcomes in participants allocated to intensive versus standard BP lowering were 0.91 (0.79, 1.05, p=0.19) for the primary outcome; 1.04 (0.91, 1.19, p=0.59) for death; 0.87 (0.72, 1.06, p=0.16) for nonfatal MI; 0.85 (0.66, 1.10, p=0.22) for stroke; and 0.96 (0.75, 1.23, p=0.74) for CV death.

Conclusions: In patients with T2DM at increased CV risk, 4.9 years of intensive BP lowering did not reduce the rate of a composite of fatal and non-fatal major CV events or mortality over a median follow-up of 8.8 years. The stroke benefit observed during the active intervention did not persist after BP differences waned.

Disclosure:
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