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Preventing CVD in Type 2 Diabetes Patients

Researchers have found that blood pressure (BP)-lowering treatment among patients with type 2 diabetes mellitus is associated with a lower risk of cardiovascular disease (CVD) and heart disease events and improved mortality. They noted that each 10-mm Hg lower systolic BP was associated with a lower risk of mortality, CVD events, coronary heart disease events, stroke, albuminuria (the presence of excessive protein in the urine), and retinopathy (loss of vision related to diabetes). Their findings are published online in *JAMA*.

Type 2 diabetes is associated with a substantially increased risk of events such as heart attack and stroke. BP levels are on average higher among individuals with diabetes and increased BP is a well-established risk factor for people with diabetes.

The researchers, led by Kazem Rahimi, DM, MSc, of the George Institute for Global Health, University of Oxford (UK), conducted a review and meta-analysis of large-scale randomised controlled trials of BP-lowering treatment including patients with diabetes, published between January 1966 and October 2014. Their review of relevant literature found 40 trials to be of low risk of bias (100,354 participants), which were included in the analysis to assess the connection between BP-lowering treatment and vascular disease in type 2 diabetes.

The research team also observed that the associations between BP-lowering treatments and outcomes were not significantly different, irrespective of drug class, except for stroke and heart failure.

While proportional associations of BPlowering treatment for most outcomes studied were diminished below a systolic BP level of 140 mm Hg, data indicated that further reduction below 130 mm Hg is associated with a lower risk of stroke, albuminuria, and retinopathy, potentially leading to net benefits for many individuals at high risk for those outcomes.

“Among patients with type 2 diabetes, BP lowering was associated with improved mortality and other clinical outcomes. These findings support the use of medications for BP lowering in these patients,” the research team pointed out.

Lowering BP in individuals with diabetes is an area of current controversy, with particular debate surrounding who should be offered therapy and the BP targets to be achieved.

In an accompanying editorial, Bryan Williams, MD, of University College London, writes: “These findings are timely, clear, and important and lend support to current guideline recommendations to consider offering patients with type 2 diabetes antihypertensive therapy when their systolic BP is 140 mm Hg or greater, aiming for a target systolic BP toward 130 mm Hg but not usually lower than this.

However, Emdin et al.'s study suggests that for some patients, these treatment thresholds and targets might be "too conservative", especially for optimally reducing the risk of stroke and the development or progression of albuminuria, Dr. Williams notes. "This conundrum highlights the problems with clinician overreliance on guidelines and guideline overdependence on an often, uncritical adoption of evidence, despite the limitations of the clinical trials. Guidelines are just that, and are necessarily conservative in providing population-based recommendations that physicians must interpret in the context of the individual patient being treated.”

By 2030, it is estimated that there will be at least 400 million individuals with type 2 diabetes worldwide.

Source: JAMA
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