



Antihypertensives Cut New-Onset Diabetes by a Third

A new analysis of the ASCOT study shows the clearest proof so far that antihypertensive treatment with an ACE inhibitor and calcium channel blocker limits new-onset diabetes, while treatment with a β -blocker (atenolol), and thiazide diuretic (bendroflumethiazide) helps cause it,

An antihypertensive treatment regimen of amlodipine plus perindopril led to 34% fewer cases of new-onset diabetes, compared with a regimen of atenolol plus bendroflumethiazide, in a controlled study with more than 14,000 hypertensive patients.

This new, prespecified analysis of data collected in the Anglo-Scandinavian Cardiac Outcomes Trial (ASCOT) also identified a fasting plasma glucose level above 90 mg/dL (5 mmol/L) as the most powerful baseline predictor of a hypertensive patient's risk of developing diabetes, producing a 5.8-fold increased risk of diabetes, compared with patients with lower baseline sugar levels, Dr. Ajay K. Gupta reported a joint meeting of the European Society of Cardiology and the World Heart Federation.

The results from several prior studies had suggested that ACE inhibitors, like perindopril, angiotensin-receptor blockers, and calcium channel blockers like amlodipine, could cut the risk of new-onset diabetes. But interpretation of the earlier results was hampered because new diabetes was not a prespecified outcome or the size of the study was small. As a result, the new ASCOT analysis is the clearest proof so far that antihypertensive treatment with an ACE inhibitor and calcium channel blocker limits new-onset diabetes, while treatment with a β -blocker (atenolol), and thiazide diuretic (bendroflumethiazide) helps cause it, said Dr. Gupta, an epidemiologist at the National Heart and Lung Institute at Imperial College in London.

Main results from ASCOT were first reported a year ago and showed that in more than 19,000 patients followed for a median of 5.5 years, a treatment strategy using amlodipine followed by perindopril for patients with hypertension plus at least three other cardiovascular risk factors led to significantly fewer cardiovascular-disease events than did a strategy that used atenolol followed by a thiazide diuretic (Lancet 2005;366:895–906). The ASCOT study was sponsored by Pfizer Inc., which markets amlodipine (Norvasc).

A prespecified subanalysis focused on the 14,120 patients who did not have diabetes at baseline. The incidence of new-onset diabetes during follow-up was 8.0% in patients treated with amlodipine followed by perindopril when needed, and in 11.4% of those who were treated with atenolol first followed by the thiazide diuretic.

In a multivariate analysis, patients in the amlodipine and perindopril group were 34% less likely to

develop new diabetes, compared with patients in the other control group, a statistically significant difference.

Other important protective factors were HDL cholesterol and total cholesterol. Risk for new diabetes fell by 28% for every 39 mg/dL (1 mmol/L) rise in HDL cholesterol, and risk fell by 11% for every 39 mg/dL (1 mmol/L) drop in total cholesterol, reported Dr. Gupta.

Several features of these drugs probably explain these effects, but one plausible explanation of the detrimental effect of β -blockers is that they increase peripheral vasoconstriction, thereby cutting blood flow to skeletal muscle and cutting its ability to metabolize blood sugar, said Dr. Peter Sever, professor of clinical pharmacology and therapeutics at Imperial College and a principal investigator for ASCOT.

The results also implicate thiazide diuretics in boosting new-onset diabetes, but many patients need a diuretic as a third-line drug to help reach their goal pressure, and these results shouldn't discourage physicians from prescribing a diuretic if needed, said Dr. Sever. Some patients might also need a fourth drug, such as a β -blocker. In that case, a more vasodilating β -blocker, such as carvedilol, should be used, commented Dr. Lars Rydén, professor emeritus of cardiology at the Karolinska Institute in Stockholm.

The most important factor by far for boosting the risk of new-onset diabetes was fasting plasma glucose at baseline, followed by body mass index. Diabetes risk rose by 49% for every body mass index rise of 5 kg/m².

Dr. Gupta used the results of the multivariate analysis to develop a scoring system to calculate the risk faced by hypertensive patients for developing diabetes. Dr. Gupta plans to report details of the scoring system in the future. He used the system to divide all patients in the diabetes analysis into quartiles based on their risk. The risk levels ranged from 2.5-fold higher in the second quartile to 5-fold higher in the third quartile and 19-fold higher in the fourth quartile.

Patients at each of these four levels of risk showed a similar magnitude of drop in their risk when they were treated with amlodipine and perindopril. It was a "surprising finding" that the risk reduction was so consistent across all four risk strata, Dr. Gupta said.

Family Practice News Volume 36, Issue 19, Pages 1-2 (01 October 2006)

=====

The same high quality patient education materials that Pritchett & Hull is known for are now available in a web-based, print-on-demand format. 'Scripts from Pritchett & Hull allows you to print individual handouts, create a series of handouts, customize any handout for your specific institution's procedures, customize any handout for every patient and carry your institution's name and logo to help market your institution within your community. Click here to learn more about 'scripts, sign up for a FREE usable demo.

<http://www.diabetesincontrol.com/ads/ph/dest.php>

This article came from

http://www.diabetesincontrol.com/index.php?option=com_content&view=article&id=4198

Please visit Diabetes In Control for the most current news in Diabetes care.
www.diabetesincontrol.com