Medical Xpress

Intensive blood pressure lowering treatment may harm people with diabetes

February 24 2016

This study shows that intensive blood pressure lowering treatment using antihypertensive drugs may be harmful for people with diabetes and a systolic blood pressure less than 140 mm Hg. Credit: Mostphotos

People with diabetes often have high blood pressure and an increased cardiovascular risk. They are therefore often recommended more

intensive blood pressure lowering treatment that non-diabetics. However, for patients with systolic blood pressure levels under 140, antihypertensive drugs may increase the risk of dying from cardiovascular causes. This according to a study at Umeå University in Sweden published in the *BMJ*.

"Our study shows that intensive blood pressure lowering treatment using antihypertensive drugs may be harmful for people with diabetes and a systolic blood pressure less than 140 mm Hg," says Mattias Brunström, doctoral student at the Department of Public Health and Clinical Medicine, and main author of the article.

"At the same time, it is important to remember that blood pressure lowering treatment is crucial for the majority of people with diabetes whose blood pressure measures above 140."

In the study, published in the *BMJ* (*British Medical Journal*), researchers Mattias Brunström and Bo Carlberg from Umeå University, have carried out a systematic review and meta-analyses of the medical literature. By analysing all published studies, together with a number of unpublished patient data, the researchers have been able to investigate the effects of blood pressure-lowering drugs in diabetes patients.

The study shows that the effects of antihypertensive treatment depend on the blood pressure level of the patient before treatment. If the systolic blood pressure before treatment was higher than 140 mm Hg, treatment was associated with a decreased risk of death, stroke, heart attack and heart failure. If the systolic blood pressure before treatment was less than 140 mm Hg, however, the risk of cardiovascular death increased. The results are nearly exclusively based upon data from patients with type 2 diabetes and previous antihypertensive treatment. Therefore, no conclusions can be made on patients with type 1 diabetes or patients with diabetes and normal blood pressure levels.

"In practice, it is important to remember that undertreatment of high blood pressure is a bigger problem than overtreatment," emphasises Mattias Brunström.

"Many treatment guidelines, both Swedish and international, will be redrawn in the next few years. It has been discussed to recommend even lower blood pressure levels for people with diabetes - maybe as low as 130. We are hoping that our study, which shows potential risks of such aggressive blood pressure lowering treatment, will come to influence these guidelines."

About the study:

In a comprehensive study, Mattias Brunström and Bo Carlberg analysed all randomised controlled trials that compared any antihypertensive agents against placebo. Apart from published studies, they also managed to collect a large amount of previously unpublished data. The results were compiled in separate meta-analyses depending on what blood pressure patients had at the start of each respective study.

More information: *British Medical Journal*, dx.doi.org/10.1136/bmj.i717

Provided by Umea University

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