

Diabetes: Personalised therapy reduces the risk of cardiovascular disease

October 8 2013

Six-hundred thousand to eight-hundred thousand Austrians suffer from diabetes mellitus. Thanks to the biomarker known as NT-proBNP (a hormone specific to the heart), the sub-group of people who are at increased risk of cardiovascular disease can be determined even though their hearts appear to be healthy. This group accounts for around 40 per cent of all diabetics. Researchers at the University Departments of General Medicine II and III at the MedUni Vienna have now demonstrated that high-dose, personalised therapy with ACE inhibitors and beta blockers can significantly reduce the risk of cardiac disease among affected patients – by as much as 64 per cent.

Three hundred [patients](#) with [diabetes mellitus](#) and elevated NT-proBNP levels who had no history of heart disease took part in the Pontiac study, the results of which have now been published in the top journal *Journal of the American College of Cardiology*. The study, which was carried out in collaboration with the MedUni Vienna's Clinical Department of Endocrinology and Metabolic Medicine and Clinical Department of Cardiology, along with the 3rd Department of Medicine at Hietzing Hospital and the health centres in central and south Vienna, involved 150 patients who were randomised to the [intervention group](#) and 150 patients who were randomised to the [control group](#).

"In the intervention group, in addition to the diabetes treatment being given in accordance with treatment guidelines, RAAS antagonists that were already being prescribed were increased to the maximum permitted dose, while at the same time patients were given the maximum possible

dose of a cardioselective beta blocker," explains Martin Clodi from the University Department of General Medicine III at the MedUni Vienna, who, together with Richard Pacher and Martin Hülsmann (General Medicine II), is one of the senior authors of the study. The 150 patients in the control group were given treatment that complies with the currently applicable guidelines set down by the Austrian Diabetes Society.

The striking result was that, in the intervention group, it was demonstrated that high-dose RAAS antagonists, in combination with [beta blockers](#), can reduce the risk of cardiovascular events by 64 percent. "The results strongly indicate, with all due safety considerations, the excellent effectiveness of biomarker-led, personalised therapy," says Clodi, and Pacher adds: "This is the first primary preventative study approach for the successful prophylaxis of [cardiac disease](#) in diabetics".

More information: Huelsmann, M. et al. PONTIAC: NT-proBNP selected Prevention of cardiac events in a population of diabetic patients without a history of Cardiac disease. A prospective randomized controlled trial, *J Am Coll Cardiol*, 2013 Jun 26. pii: S0735-1097(13)02517-5. [DOI: 10.1016/j.jacc.2013.05.069](https://doi.org/10.1016/j.jacc.2013.05.069) . PMID: 23810874

Provided by Medical University of Vienna

Citation: Diabetes: Personalised therapy reduces the risk of cardiovascular disease (2013, October 8) retrieved 27 April 2024 from <https://medicalxpress.com/news/2013-10-diabetes-personalised-therapy-cardiovascular-disease.html>

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