

**Biomarkers**

# PONTIAC (NT-proBNP Selected PreventiOn of cardiac eveNts in a populaTion of dlabetic patients without A history of Cardiac disease)

A Prospective Randomized Controlled Trial

Martin Huelsmann, MD,\* Stephanie Neuhold, MD,\*† Michael Resl, MD,‡ Guido Strunk, PhD,§||  
Helmut Brath, MD,¶ Claudia Francesconi, MD,# Christopher Adlbrecht, MD,\* Rudolf Prager, MD,\*\*  
Anton Luger, MD,‡ Richard Pacher, MD,\* Martin Clodi, MD‡  
*Vienna, Austria; and Dortmund, Germany*

**Objectives** The study sought to assess the primary preventive effect of neurohumoral therapy in high-risk diabetic patients selected by N-terminal pro-B-type natriuretic peptide (NT-proBNP).

**Background** Few clinical trials have successfully demonstrated the prevention of cardiac events in patients with diabetes. One reason for this might be an inaccurate selection of patients. NT-proBNP has not been assessed in this context.

intervention did not result in a decrease of the biomarker. We therefore conclude that NT-proBNP is an excellent marker to select diabetic patients at risk of cardiac events, but more research is needed to guide the treatment using this biomarker, which has been proven to be effective in selected cohorts in heart failure (25,26).

The treatment combination seems safe, based on the lack of any adverse events requiring hospitalization during the study. Interestingly, the glycemic control achieved was significantly better in the intensified group. Although there was an aggressive up-titration of RAS antagonists and beta-blockers in an already well-treated population, there were no discontinuations of therapy or hospitalizations due to hypotensive symptoms or for worsening renal function. Among the reasons for this unexpected safety may be the individualized, slow but steady titration phase, which took up to 3 months. Another reason might have been the possibility to contact the outpatient department for advice if side effects emerged. It is worth noting that the glomerular filtration rate significantly decreased in the intensified group, which is a known and accepted effect of RAS inhibition (17,27).

**Study limitations.** A limitation of this trial was the absence of patient randomization for treatment, as withholding RAS

that based on the low event rates in a population with low NT-proBNP the number to treat would be substantially higher than in the population presented in the PONTIAC trial.

**Acknowledgments**

The authors thank Werner Jakober and Isabella Brodnjak, who organized patient contacts and helped with the collection of medical histories. Additional thanks to Emily Lemon for the English proofreading.

**Reprint requests and correspondence:** Dr. Richard Pacher, Department of Internal Medicine II, Division of Cardiology, Medical University of Vienna, Waehringer Guertel 18-20, 1090 Vienna, Austria. E-mail: richard.pacher@meduniwien.ac.at.

**REFERENCES**

1. Patel A, MacMahon S, Chalmers J, et al. Intensive blood glucose control and vascular outcomes in patients with type 2 diabetes. *N Engl J Med* 2008;358:2560-72.
2. Duckworth W, Abraira C, Moritz T, et al. Glucose control and vascular complications in veterans with type 2 diabetes. *N Engl J Med* 2009;360:129-39.