We are proud to offer a regular column on diabetes and related concerns every other Friday.

DAKOTA DIABETES
COALITION

Dr. Johnson is a family practice doctor in Grand Forks with a special interest in diabetes -- and a special knack for writing. As a member of the Dakota Diabetes Coalition, he has generously made himself available to answer questions through our listserv. If you have comments, or questions for Dr. Johnson to address in future columns, please contact gailhand@q.com

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10 more years of data

UK Study: early glucose control pays off, blood pressure needs vigilance

The United Kingdom Prospective Diabetes Study (UKPDS), originally published in 1998, looked at the benefits of glucose and blood pressure control in a group of newly diagnosed type 2 diabetes patients. Patients who received intensive glucose management had generally better outcomes, particularly in regard to microvascular complications.

In the blood pressure component of this study, tight blood pressure resulted in more benefit in macrovascular complications such as heart attack and stroke, as might be expected. Significantly, tight blood pressure control yielded reductions in all diabetes-related endpoints.

This data was a landmark study regarding outcomes in type 2 diabetes. On Oct. 9, the New England Journal of Medicine published an additional decade of post-trial data. This data provides insights on whether there is any persistent benefit of tight blood glucose and/or tight blood pressure control in these study subjects with type 2 diabetes.

At the end of the trial, no attempt was made to continue the particular regimen an individual treatment subject received. For example, if a patient was in the intensive blood glucose control group, after the study ended, they may not necessarily stay with that treatment regimen.

Interestingly, patients who had originally been in the intensively managed **blood glucose arm of the study had persistent benefit**, even if their blood glucose control was not necessarily managed as tightly following the closure of the study in 1997. Results for patients who had received intensive management still included **post-trial risk reductions for diabetes-related death (17%), myocardial infarction (15%) and death from any cause (13%).**

In other words, early aggressive treatment in these newly diagnosed patients paid off with these benefits in later years, even if their blood glucose control was not as tightly maintained. We might consider this to be a ‘legacy’ or ‘metabolic memory’ effect. Additionally, overweight patients who had been treated with metformin had lower risk of death or myocardial infarction, heart attack. This benefit of metformin has led to the current recommendation of starting lifestyle management, along with metformin at diagnosis of type 2 diabetes, unless a contraindication exists.

Blood pressure a different story

The early benefit of tight blood pressure control in the original patients, however, did not persist -- **unless the patient continued to have tight blood pressure control** during the post-study period.

Benefit of tight glucose control, particularly in regard to microvascular complications, appears to be confirmed long term in this post-study data, now 10 years out from the end of the original study. Similar data had been noted in the EDIC study for type 1 patients in 2005, which had followed the original Diabetes Control and Complications Trial subjects for 10 years after the original study conclusion.

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Metabolic Memory: UKPDS Follow-up, Dr. Johnson's Column #33, Oct. 31, 2008