

30-year study shows benefits of glucose control

September 11 2008

(PhysOrg.com) -- A large-scale, 30-year study by Oxford University has shown improved blood glucose control in type 2 diabetes leads to greater benefits in the longer term. The findings, to be published in the *New England Journal of Medicine*, show the need to treat blood glucose levels more intensively from the time type 2 diabetes is diagnosed.

The researchers at the Oxford Centre for Diabetes, Endocrinology and Metabolism have found that earlier improved blood glucose control reduces the risk of heart attacks and leads to fewer deaths, in addition to reducing the risk of well-recognised complications from type 2 diabetes, such as kidney and eye disease.

The UK Prospective Diabetes Study (UKPDS) was the first large scale trial to show that the complications of type 2 diabetes, including kidney failure and vision loss from eye disease, were not inevitable but could be prevented, both by more intensive blood glucose control and by tighter blood pressure control. The trial results, published in 1998, changed diabetes management worldwide and now form the basis of all diabetes treatment guidelines. When the UKPDS finished all patients returned to their usual healthcare. Investigators continued to monitor them each year for diabetic complications but were no longer involved in treatment decisions.

New results published today show that although the blood glucose control differences maintained between groups during the trial disappeared rapidly, the advantages of earlier improved blood glucose

control with respect to diabetic eye disease and kidney disease were undiminished even after ten years – a legacy effect. In addition, major new benefits emerged with a reduced risk of heart attacks (15%) and fewer deaths (13%).

‘We now know not only that good glucose control from the time type 2 diabetes is diagnosed reduces the rate of diabetic complications but also that this early intervention leads to sustained benefits in the longer term – a legacy effect’, commented Professor Rury Holman of Oxford University, Chief Investigator of the study. ‘These results emphasise the importance of detecting and treating diabetes at the earliest opportunity and the major benefits that can be obtained with good blood glucose control’

The UKPDS post-trial blood pressure results did not show a legacy effect. Blood pressure differences maintained during the trial between the tight and less-tightly controlled groups disappeared rapidly, as for blood glucose control. In this case, however, the risks of diabetic complications also become similar. The investigators concluded that lowering blood pressure remains essential to help minimise the risk of diabetic complications, but unlike glucose lowering, the benefits obtained do not increase over time.

Professor David Matthews, Chairman of the Oxford Centre for Diabetes, Endocrinology and Metabolism, added: ‘With glucose control it matters how well you are treated now and how well you were treated in the past – with blood pressure it seems to be related just to current therapy, confirming how essential it is to maintain good blood pressure levels over time if the risk of complications is to be minimised’

Professor Andrew Neil, University of Oxford Division of Public Health & Primary Health Care, stated: ‘UKPDS is a landmark trial that defined the basis for treating type 2 diabetes and has now underscored the need

for lifelong good management of blood glucose and blood pressure control.'

Provided by Oxford University

Citation: 30-year study shows benefits of glucose control (2008, September 11) retrieved 12 July 2023 from <https://medicalxpress.com/news/2008-09-year-benefits-glucose.html>

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