Study shows intensive glucose control reduces serious complications

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An Australian led global study, the largest of its kind, has found that the risk of developing serious kidney disease and other complications amongst our 1.2 million people living with diabetes can be significantly reduced by intensively lowering blood glucose (sugar) levels beyond what is currently standard practice.

The ADVANCE (Action in Diabetes and Vascular Disease) study was conducted by the Sydney based George Institute for International Health involving more than 11,000 people with type 2 diabetes worldwide.

The results show that intensive blood glucose (sugar) control using modified release gliclazide and other drugs as required, protects patients against serious complications of the disease. In particular, intensive treatment reduces the risk of kidney disease by one-fifth.

Presented today by Australian researchers at the American Diabetes Association conference in San Francisco and published in the New England Journal of Medicine, the results of ADVANCE show that this intensive treatment strategy has the potential to benefit millions of diabetic patients worldwide.

Diabetes mellitus is one of the greatest threats to the health of populations worldwide. More than 1 million Australians and over 250 million people globally are living with diabetes and that number is estimated to rise to 380 million in 2025.

Chief investigator of the study, Professor Stephen MacMahon, Principal Director of The George Institute, Australia said "We are facing a global epidemic of diabetes. The ADVANCE results go beyond existing evidence as we have now shown that reducing the haemogloboin A1c level (a marker of blood glucose control) to 6.5% is a safe and effective way to reduce serious complications, particularly the risk of kidney disease, one of the most serious and disabling consequences of diabetes, leading to death in one in five people with diabetes."

"Hypoglycemia (low blood sugar) was uncommon in the ADVANCE study, although as expected it was more frequent among those receiving intensive treatment," pointed out Study Director, Associate Professor Anushka Patel from The George Institute. "These findings reinforce that blood glucose lowering in diabetes is safe and has an important role to play in the prevention of serious complications."

David Jayne, who took part in the study was diagnosed with type 2 diabetes eight years ago. "The news that I had diabetes came as quite a shock. I decided to take part in the trial, as I wanted to give something back, having received a lot of special treatment whilst in hospital," said David. "My glucose levels are well and truly under control, I do feel a lot better than I did before and I'm really enjoying life," he added

ADVANCE was initiated and designed by physicians at Australia's George Institute for International Health and involved a group of independent medical researchers from 20 countries worldwide. The study involved 11,140 patients with type 2 diabetes who were treated and followed up for five years. The study aimed to reduce levels of haemogloboin A1c to 6.5% or below. Intensive treatment included the sulfonylurea, modified-release gliclazide, for all patients and other drugs as required to achieve the haemoglobin target.

The major findings of ADVANCE show that intensive blood glucose

lowering treatment:

-- Safely controlled blood glucose to a mean HbA1c level of 6.5%
-- Significantly reduced the overall risk of serious diabetes complications (by 10%), with a one-fifth reduction in kidney disease (21%) and 30% reduction in the development of proteinuria, a well established marker of increased cardiovascular risk.
-- Achieved a positive trend towards reduction in the risk of cardiovascular death (12%), although not statistically significant.

"Today, it is clear that the prevention of major vascular complications of diabetes requires a multi-factorial approach addressing all modifiable risk factors" concluded Professor John Chalmers, chairman of the study management group, "among which an intensive glucose control plays an important role, in particular in protecting the kidneys".

Source: Research Australia