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Glycaemic Therapy, β-Blockers Lower Mortality Risk in Diabetes

A study published in the journal *Diabetes Care* demonstrates that intensive glycaemic therapy (IGT) has beneficial effects in type 2 diabetes (T2D) patients receiving treatment with **β**-blockers.

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Intensive glycaemic control (IGC) decreases the risk for microvascular diseases such as diabetic retinopathy and nephropathy. However, IGC has not been found to have similar preventive effects for the prevention of cardiovascular events. On the contrary, the Action to Control Cardiovascular Risk in Diabetes (ACCORD) trial showed that it increases all-cause and cardiovascular mortality rates. This may be attributed to the fact that glucose-lowering therapy increases the frequency of hypoglycaemic episodes, which are associated with a greater risk for macrovascular events and mortality. Recent research has suggested that b-blockers decrease the adverse effects of hypoglycaemia and consequently reduce cardiac arrhythmias and death associated with the condition.

Tetsuro Tsujimoto, of the National Center for Global Health and Medicine, Tokyo, Japan, and colleagues compared a standard glycaemic therapy with IGT combined with treatment with b-blockers in T2D patients in order to assess if the latter has any beneficial effects for the prevention of cardiovascular events without increased mortality rates.

The researchers used ACCORD trial data to assess the risk of cardiovascular events, all-cause mortality and cardiovascular death in diabetes patients receiving treatment with b-blockers and patients not receiving treatment with b-blockers. The results showed that the rate of cardiovascular events in T2D patients receiving treatment with b-blockers was significantly lower in the IGT group compared with the standard therapy group. Moreover, cumulative event rates for all-cause and cardiovascular mortality in patients not receiving treatment with b-blockers were significantly higher in the IGT group.

In conclusion, the current study found that the adverse effects of IGT “might be attributed to the effects of not receiving treatment with b-blockers. Based on pathophysiological mechanisms, a prior use of b-blockers may prevent the adverse influence of the hypersecretion of catecholamines induced by severe hypoglycaemia, and that may reduce the number of vascular events, cardiac arrhythmias, and deaths due to severe hypoglycaemia.”

Source: Diabetes Care

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