Ultra-long acting insulin effective with three injections weekly

March 11 2011

A U of T study assessing a new longer-acting form of insulin—degludec— has shown that when given once daily it is as effective at controlling blood sugar as existing insulin glargine injections but with lower rates of hypoglycemia.

Consistent with degludec's long acting properties, the study also demonstrated that patients could achieve the same level of glucose control when the insulin was administered just three times a week instead of daily. The research, published Online First and in this week's Lancet, is written by Professor Bernard Zinman of medicine and the Samuel Lunenfeld Research Institute at Mount Sinai Hospital.

Insulin degludec is a unique type of injectable insulin currently in development. In this 16-week, randomized phase 2 proof of concept trial , participants aged 18 to 75 years with type 2 diabetes and glycosylated haemoglobin (HbA1C) of 7â€¢0-11â€¢0 per cent were enrolled and treated at 28 clinical sites in Canada, India, South Africa and the U.S. A value of 7.0 per cent or under is usually the target for diabetes patients.

Patients were randomly allocated to receive insulin degludec once daily, insulin degludec three times weekly or insulin glargine once daily. At study's end, mean HbA1C levels were much the same across treatment groups ranging from 7.2 per cent to 7.5 per cent. Fewer participants suffered hypoglycemia (abnormally low blood sugar) in the insulin degludec once daily group compared to the other groups and the number of adverse events was much the same across groups, with no apparent

treatment-specific pattern.

Professor Zinman said, “Because of its ultra-long action profile, insulin degludec injected three times weekly appears to provide similar glucose control to insulin glargine once daily. This new basal insulin analogue might be a valuable addition to clinical practice … However the safety, efficacy, and optimum use of treatment regimens for insulin degludec will need to be established in larger phase 3 trials.”

Provided by University of Toronto