Clinical Medicine 2019 Vol 19, No 2: s120

Early intensified insulin therapy in newly diagnosed type 2 diabetes leads to sustained improvement in glycaemic control and improved beta cell function

Author: Jatinder Mokta

Aims

Type 2 diabetes mellitus (T2DM) is a progressive disease characterised by relentless deterioration of pancreatic β-cell function. Traditionally, insulin is used in later stages of T2DM. This study looks at use of insulin at time of diagnosis of T2DM and its effect on glycaemic control and beta cell function.

Methods

This is a prospective observational study conducted in symptomatic newly diagnosed type 2 diabetes adults (>18-year-olds) who presented with glycated haemoglobin (A1C) levels > 9%. For the initial 8 weeks, patients were treated with pre-mix insulin after which they were changed over to oral agents, and followed up for next 3 years.

Results

Of 122 study participants who completed the study, 50% were female and 90% were from rural areas. The average age of participants was 51.4 ± 9.6 years. Baseline mean fasting plasma glucose (FPG), postprandial plasma glucose (PPPG) and A1C were 267 ± 76 mg/dL, 408 ± 101 mg/dL and 11.5 ± 1.4%, respectively. At the end of insulin therapy (8 weeks), the mean FPG, PPG and A1C reduced to 107 ± 10 mg/dL, 145 ± 24 mg/dL and 7.3 ± 0.8%, respectively, all of which were highly significant. The mean postprandial C-peptide significantly increased from 1.8 ± 0.6 to 2.8 ± 0.9 ng/dL. An average of 1.7 kg weight gain and 0.97 episodes of mild to moderate hypoglycaemia were observed. At the end of study (156 weeks), the mean FPG, PPG and A1C were 99 ± 14 mg/dL, 152 ± 12 mg/dL and 6.7 ± 0.4%.

Conclusion

Early insulin therapy in treatment naive patients with T2DM results in rapid improvement of glycaemic control, helps to maintain long term normoglycaemia and improves β-cell function. ■

Conflict of interest statement

None declared.

Author: Indira Gandhi Medical College, Shimla, Himachal Pradesh India