Comparison of glycemic excursion in patients with new onset type ii diabetes mellitus before and after treatment with repaglinide.

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Background and Aims: Due to industrialization and sedetary life, incidence of type 2 diabetes (DM2) is seriously increasing. Repaglinide is a glucose reducing agent that predominantly reduces post-prandial glucose. CGMS monitors blood glucose excursions over a 3-days period. The aim was to determine the blood glucose excursions in patients with new onset DM2.

Methods: 10 patients with new onset DM2, aged between 30-60 years entered this study. As the first therapeutic management, patients received diabetic regimen and moderate exercise for 3-weeks, if they did not achieve blood glucose goal (FBS<120mg/dl, 2hppG<180mg/dl), patients were considered to undergo 3-days CGMS at baseline and after 4-weeks on repaglinide 0.5mg Tid.

Results: Mean age of patients was 45.7±6.46 years. Mean excursions of blood glucose was not different at the onset and end of treatment (6±4.05 VS 7.6±5.2 episodes, P=0.49) and also between mean duration of hypoglycemic episodes before and after therapy (zero VS 5.1±14.1 h, P=0.28). There was no significant difference between hyperglycemia episodes before and after therapy. (7.6±5.2 VS 5.7±4.1, P=0.42) but mean hyperglycemia duration was significantly reduced at the end of therapy (21±26.17 VS 57.7±35.3, P=0.001). Patients experienced a mean of 0.3±0.67 episodes of hypoglycemia after therapy that showed no significant difference with before it (P=0.19). Mean FBS (with CGMS) after therapy was significantly lower than before it (142.9±54.31 VS 222.9±82.6 P<0.001).

Conclusions: This study demonstrates that repaglinide (with the lowest effective dose and duration) beside CGMS, can reduce FBS significantly and post-prandial BS to target goal, and hypoglycemic events are significantly low. The repaglinide is a safe and effective treatment for new onset diabetic patients and CGMS is an effective adjuvant therapy for control of DM in these patients.

Keywords: Repaglinide; Glycemic excursions; DM2; CGMS