

- A crossover design was used to examine the changes in gastrointestinal peptides and glucose metabolism in a single sample of eleven patients with type 2 diabetes mellitus (T2DM) following single administration of acarbose, miglitol, or sitagliptin.
- Early-phase insulin secretion was decreased following acarbose and miglitol, and the areas under the curve (AUC) of insulin at 180 minutes following acarbose and miglitol were significantly lower than sitagliptin.
- Postprandial plasma active glucagon-like peptide-1 (GLP-1) levels and AUC of GLP-1 increased significantly in both the sitagliptin and miglitol groups compared to control.
- Postprandial plasma total glucose-dependent insulintropic polypeptide levels increased following sitagliptin but decreased after acarbose and miglitol.
- Sitagliptin and α -glucosidase inhibitors, miglitol more so than acarbose, improved hyperglycemia in patients with T2DM, and had different effects on insulin and incretin secretion.

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