

Treating prediabetes does not affect progression

Clinical question Does treatment of postprandial hyperglycaemia in patients with early, asymptomatic diabetes delay progression to fasting hyperglycaemia?

Bottom line The jury is still out regarding the identification and treatment of patients with prediabetes. According to this study, a similar percentage of patients with early diabetes will develop diabetes, whether or not they receive therapy to lower postprandial glucose levels. A larger, though shorter, study has shown a difference, but it looks like early benefit is lost over time.

Synopsis Researchers conducting this US-based study enrolled 219 adults with obesity, a history of gestational diabetes or a family history of diabetes. The patients did not have a diagnosis of diabetes but had a fasting plasma glucose level between 105mg/dL and 140mg/dL (5.5mmol/L–7.8mmol/L) and a two-hour postload of plasma glucose of at least 200mg/dL (11.1mmol/L). After a two-day admission for extensive testing, patients were randomly assigned (whether allocation was concealed is uncertain) to receive either placebo or acarbose titrated to a maximum dose of 100mg three times daily. The maximum dose was achieved by 91 per cent of patients. The patients had their fasting glucose level measured every three months for up to five years. Approximately 43 per cent of the patients did not complete the study. Since the dropout rates were similar in both groups, it is likely that the patients represent a highly motivated group of people. Additionally, given the frequent side effects of acarbose, patients receiving placebo were probably aware of that fact and

may have been more rigorous with non-drug efforts to reduce the risk of diabetes. This increased effort might be responsible for the lower than expected development of diabetes in the placebo-treated patients. Although postprandial glucose levels were decreased by acarbose, over the five years of the study a similar proportion of patients in both groups developed fasting hyperglycemia, approximately 30 per cent in both groups (29 per cent vs 34 per cent). The study was small and the results would only be significant if the treatment decreased the development of diabetes by half as compared with typical rates of development. The results conflict with the shorter-duration STOP-NIDDM study which found, after an average of three years, that 32 per cent of treated patients had diabetes compared with 42 per cent of placebo-treated patients (*Lancet* 2002;359:2072). A non-significant difference in diabetes also occurred at three years in the current study, although the difference was lost by the end of the study.

Level of evidence 1b– (individual randomised controlled trial with a wide confidence interval).

Reference Kirkman MS, Shankar RR, Shankar S. Treating postprandial hyperglycemia does not appear to delay progression of early type 2 diabetes. *Diabetes Care* 2006;29:2095–2101.

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