

DIABETES

Long-term effects of oral antidiabetic agents on C-reactive protein levels

A study that compared efficacy and safety of oral antidiabetic agents in patients with newly diagnosed type 2 diabetes mellitus has shown that rosiglitazone reduces levels of C-reactive protein—a systemic marker of inflammation and risk factor for cardiovascular disease—faster and more prominently than glibenclamide or metformin over a period of 4 years.

The ADOPT (A Diabetes Outcome Progression Trial) researchers enrolled 904 drug-naïve patients diagnosed as having type 2 diabetes mellitus within the previous 3 years, of which 304 were prescribed rosiglitazone, 302 received glibenclamide and 298 were administered metformin.

Levels of plasma glucose, HbA_{1c}, immunoreactive insulin and C-reactive protein were determined every 6 months for 4 years. At the end of the follow-up period, 491 patients had dropped out of the trial because of failure to respond

to monotherapy (defined as fasting plasma levels of >10 mmol/l on two successive occasions or by independent assessment).

Levels of C-reactive protein were comparable between all three groups at baseline and correlated with BMI, waist circumference and insulin resistance. Over the treatment period, concentrations of C-reactive protein decreased most in the rosiglitazone group and least in the group treated with glibenclamide. These changes were more rapid with rosiglitazone treatment than with the other medications.

In the long term, patients who received rosiglitazone gained significantly more weight, but showed greater improvement of insulin resistance, independent of changes in C-reactive protein levels from baseline to 1 year, compared with the other two treatment groups.

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Original article Kahn, S. E. *et al.* Rosiglitazone decreases C-reactive protein to a greater extent relative to glyburide and metformin over four years in spite of greater weight gain: observations from ADOPT (A Diabetes Outcome Progression Trial). *Diabetes Care* doi:10.2337/dc09-1661