Greater reductions in C-reactive protein with rosiglitazone than with glyburide or metformin despite greater weight gain

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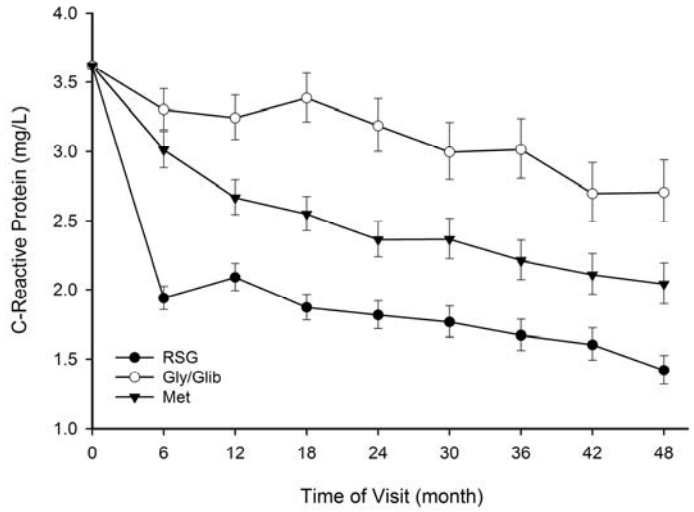
Background and Aims: In ADOPT (A Diabetes Outcome Progression Trial), rosiglitazone (RSG) decreased time to monotherapy failure compared with glyburide (GLY) and metformin (MET) in patients with recently diagnosed type 2 diabetes. We have previously reported that obesity at baseline was the main determinant of C-reactive protein (CRP) in these patients. Previous small, short-term studies have shown that thiazolidinediones (TZDs) can reduce inflammation, as measured by high-sensitivity CRP. However, these studies were not able to determine whether increased weight gain with TZDs might preclude their effects on CRP.
Materials and Methods: Patients from the North American Cohort of ADOPT with a median follow-up of 4.0 years (n = 783) were examined. At baseline, the median BMI was 32.8 kg/m^2 and was similar in each treatment group. The median baseline CRP values were 4.5 mg/l, 3.7 mg/l and 4.2 mg/l for RSG, GLY and MET, respectively.
Results: While all treatments decreased CRP levels from baseline after 4 years, the reduction by RSG was 47.6% relative to GLY (95% CI = 57.8, 35.0; p<0.0001) and 30.5% relative to MET (95% CI = 43.3, 14.9; p = 0.0004). However, RSG resulted in a 3.85 kg increase in weight compared with GLY (95% CI = 2.39, 5.31) and an 8.56 kg increase compared with MET (95% CI = 7.16, 9.95) at 4 years.



Conclusion: Despite greater weight gain over the 4-year follow-up period, RSG more effectively reduced inflammation than did MET or GLY. Further study is required to clarify the mechanism involved.