GLITAZONES AND THE ENDOTHELIUM (GATE) STUDY: EFFECT OF ROSIGLITAZONE ON ENDOTHELIAL
FUNCTION IN TYPE 2 DIABETES MELLITUS

ACC Poster Contributions
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Background: Endothelial dysfunction is recognized in patients with DM2. Insulin resistance plays central role to the pathogenesis of endothelial
dysfunction. The effects of rosiglitazone on endothelial function have not been widely reported. The purpose of this study was to assess effects of
rosiglitazone on endothelial function, as an add-on therapy in patients with DM2 treated with oral therapy.

Methods: Patients with DM2 and inadequate glycemic control on oral therapy (hemoglobin A1c [HbA1c] 6-10%) were randomly assigned to
treatment with rosiglitazone (n=17) or placebo (n=16) for 12 weeks. Before and after treatment, blood flow responses to intraarterial administration
of endothelium-dependent (acetylcholine) and nitrate-independent (verapamil) vasodilators were measured using forearm impedance
plethysmography.

Results: At baseline, there were no differences in patients demographics (mean age 58±10; prior MI 31%; CAD 44%), risk factors or metabolic
parameters. Patients randomized to rosiglitazone demonstrated numerical improvement in fasting glucose (-1.0 mmol/L), HgA1C (-0.51%) and
insulin (-21.5 pmol/L) vs. placebo (p>0.05). There was no improvement in endothelial function in patients treated with rosiglitazone vs. placebo or
baseline (Figure).

Conclusion: Rosiglitazone as add on therapy to oral agents in DM2 patients with sub-optimal glycemic control over 12 weeks led to improved
parameters of glycemic control and insulin resistance but not improved endothelial function.