Pantalone et al.: The risk of developing coronary artery disease or congestive heart failure, and overall mortality, in type 2 diabetic patients receiving rosiglitazone, pioglitazone, metformin, or sulfonylureas: a retrospective analysis

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Dear Editor,

Pantalone et al.'s retrospective study of a large number of type 2 diabetic subjects confirmed once again, that events related to coronary artery disease were greater when sulfonylureas rather than metformin or thiazolidinediones (TZDs) were utilized [1]. Obviously, part of this finding could be explained by cardioprotection from metformin and TZDs. However, the more likely explanation for this improved risk is the increased risk of a cardiac event with sulfonylureas.

Sulfonylureas increase or worsen myocardial events by closing the K^+ -ATPase channels in the myocardiocyte [2]. Two sulfonylureas which do not have this effect and have not been shown to be associated with increased myocardial events are glimepiride and glicizide [2].

Since glicizide is not available in the United States, the only "safe" sulfonylurea in this study would have been glimepiride. It would therefore be interesting to assess whether with glimepiride there was still an increase in

myocardial events compared with metformin or TZDs. If there was not an association then the likely cause of the increased events would be the action of sulfonylureas. However, if an association, even a less robust association, was still present with glimepiride it would provide further evidence for the cardioprotective effects of metformin and TZDs.

References

1. Pantalone KM, Kattan MW, Yu C, Wells BJ, Arrigain S, Jain A, Atreja A, Zimmerman RS (2009) The risk of developing coronary artery disease or congestive heart failure, and overall mortality, in type 2 diabetic patients receiving rosiglitazone, pioglitazone, metformin, or sulfonylureas: a retrospective analysis. *Acta Diabetol*. doi:10.1007/s00592-008-0090-3
2. Bell DS (2006) Do sulfonylurea drugs increase the risk of cardiac events? *CMAJ* 174(2):185–186

A reply to this letter can be found at doi:10.1007/s00592-009-0111-x.

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