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## Letter to the Editor

# Comment on: Boden et al. (2007) Combined Use of Rosiglitazone and Fenofibrate in Patients with Type 2 Diabetes: Prevention of Fluid Retention: *Diabetes* 56:248–255

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I read with interest the article by Boden et al. (1) regarding the prevention of fluid retention with the use of fenofibrate in combination with rosiglitazone. Impressive clinical data has recently been published on the use of thiazolidinedione (TZD) therapy for diabetes, but the increased incidence of edema and heart failure has been viewed as a major concern that may outweigh the benefits of TZD therapy (2,3).

The data by Boden et al. support the concept that fenofibrate may prevent the edema observed with rosiglitazone therapy in a small patient population that should be investigated in a larger cohort. A concern with the data presented is that the patients in the rosiglitazone group may have had a higher baseline risk for edema than the combination therapy group. In this study, there is no information presented on past medical histories of the patients (congestive heart failure) or medication histories including use of dihydropyridine calcium channel blockers, which are known to cause edema (4). Also, in the combination group, one of the eight patients was receiving insulin therapy. In the rosiglitazone group, concomitant

medications were reported in the previous trial by Boden et al., and this study noted that four of eight patients were receiving insulin therapy (5). It is unknown how many of the five patients included in this study were receiving insulin therapy. The combination of insulin with TZD therapy increases the risk of edema in diabetic patients even with normal heart function (4).

The concerns of edema with TZDs have prompted several researchers to investigate ways to treat and prevent this adverse effect. Concomitant disease states and medications should be taken into account in these studies to ensure that patient populations are equivalent.

### REFERENCES

1. Boden G, Homko C, Mozzoli M, Zhang M, Kresge K, Cheung P: Combined use of rosiglitazone and fenofibrate in patients with type 2 diabetes: prevention of fluid retention. *Diabetes* 56:248–255, 2007
2. DREAM (Diabetes Reduction Assessment with Ramipril and Rosiglitazone Medication) Trial Investigators, Gerstein HC, Yusuf S, Bosch J, Pogue J, Sheridan P, Dinccag N, Hanefeld M, Hoogwerf B, Laakso M, Mohan V, Shaw J, Zinman B, Holman RR: Effect of rosiglitazone on the frequency of diabetes in patients with impaired glucose tolerance or impaired fasting glucose: a randomised controlled trial. *Lancet* 368:1096–1105, 2006
3. Kahn SE, Haffner SM, Heise MA, Herman WH, Holman RR, Jones NP, Kravitz BG, Lachin JM, O'Neill MC, Zinman B, Viberti G, the ADOPT Study Group: Glycemic durability of rosiglitazone, metformin, or glyburide monotherapy. *N Engl J Med* 355:2427–2443, 2006
4. Nesto RW, Bell D, Bonow RO, Fonseca V, Grundy SM, Horton ES, Le Winter M, Porte D, Semenkovich CF, Smith S, Young LH, Kahn R: Thiazolidinedione use, fluid retention, and congestive heart failure: a consensus statement from the American Heart Association and American Diabetes Association. *Diabetes Care* 27:256–263, 2004
5. Boden G, Cheung P, Mozzoli M, Fried SK: Effect of thiazolidinediones on glucose and fatty acid metabolism in patients with type 2 diabetes. *Metabolism* 52:753–759, 2003

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Received for publication 17 January 2007 and accepted in revised form 18 January 2007.

DOI: 10.2337/db07-0082

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