

Antiobesity drug therapy

In Reply: I thank Dr. Modarressi for these comments and agree that the impact of many glucagon-like peptide 1 (GLP-1) receptor agonists on the lowering of blood pressure is modest but significant when compared with other glucose-lowering agents and thus have exerted cardioprotective benefits.

A meta-analysis¹ of 16 randomized controlled trials, including 2,417 control group participants and 3,443 patients enrolled in GLP-1 receptor agonist treatment, examined the blood pressure-lowering impact of exenatide and liraglutide.

Exenatide reduced systolic blood pressure (SBP) by a mean difference of -5.24 mm Hg compared with placebo (95% confidence interval [CI] -6.88 to -3.59 , $P < .001$) and by -3.46 mm Hg compared with insulin glargine (95% CI -3.63 to -3.29 , $P < .001$). In the exenatide-treated group, diastolic blood pressure (DBP) was reduced by -5.91 mm Hg compared with placebo (95% CI -7.53 to -4.28 , $P < .001$) and by -0.99 mm Hg compared with sitagliptin (95% CI -1.12 to -0.87 , $P < .001$).

For liraglutide, SBP changes in this meta-analysis were assessed in the groups treated with 1.2 mg/day or 1.8 mg/day of liraglutide. In the 1.2-mg/day group, liraglutide reduced SBP by a mean difference of -5.60 mm Hg compared with placebo (95% CI -5.84 to -5.36 , $P < .001$) and by -2.38 mm Hg compared with glimepiride (95% CI -4.75 to -0.01 , $P = .05$). In the 1.8-mg/day group, liraglutide also reduced SBP by -4.49 mm Hg compared with placebo (95% CI -4.73 to -4.26 , $P < .001$) and by -2.62 mm Hg compared with glimepiride (95% CI -2.91 to -2.33 , $P < .001$).

In summary, treatment with the GLP-1 receptor agonists exenatide and liraglutide reduced SBP and DBP by 1 to 5 mm Hg compared with antidiabetic drugs including insulin and glimepiride and with placebo for patients with type 2 diabetes mellitus. GLP-1 receptor agonists may offer an alternative therapy for these patients and will help provide additional cardiovascular benefits.

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■ REFERENCES

1. Wang B, Zhong J, Lin H, et al. Blood pressure-lowering effects of GLP-1 receptor agonists exenatide and liraglutide: a meta-analysis of clinical trials. *Diabetes Obes Metab* 2013; 15(8):737–749. doi:10.1111/dom.12085

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