New Therapies: Vildagliptin

Vildagliptin, a dipeptdyl peptidase 4 (DPP-4) inhibitor, is seeking regulatory approval as a once-daily oral treatment for type 2 diabetes. DPP-4 is the enzyme that degrades glucagon-like peptide-1 (GLP-1). GLP-1 triggers glucose dependent insulin secretion, inhibits the secretion of glucagon, slows gastric emptying, and influences satiety. GLP-1 has a very short half-life, so by inhibiting the action of DPP-4, GLP-1 remains in its active form for a longer period.

An overview of the recent phase 3 vildagliptin clinical trials was presented. One study examined vildagliptin as combination therapy with pioglitazone in treatment naïve patients with type 2 diabetes. Patients were randomized to one of four treatment arms: vildagliptin 100 mg/day, pioglitazone 30 mg/day, vildagliptin100 mg/day + pioglitazone 30 mg/day, or vildagliptin 50 mg/day + pioglitazone 15 mg/day. Patients taking vildagliptin100 mg/day + pioglitazone 30 mg/day had a greater reduction in HbA1c than those on pioglitazone monotherapy (1.9% vs. 1.4%; $p<0.001$). Patients taking the combination therapies did not gain any additional weight compared to the patients taking pioglitazone monotherapy.

In another trial of 700 patients with type 2 diabetes, vildagliptin (100 mg/day) went head-to-head with rosiglitazone (8 mg/day). Both agents significantly reduced HbA1c, but there was no statistically significant difference between treatment groups. Vildagliptin, however, did not cause any weight gain, and patients gained a mean of 1.6 kg while taking rosiglitazone.

The incidence of episodes of hypoglycemia and edema in patients taking vildagliptin was similar to placebo in the previous monotherapy trials. The most frequent side effects of vildagliptin were cold/flu-like symptoms, dizziness, and headaches. The agent does not appear to have any drug interactions with commonly used medications. Vildagliptin is currently under regulatory review in the USA, and will be filed in the EU later in 2006.

Highlights from the
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