In LEAD, Liraglutide Lowered HbA1c
With No Weight Gain, Hypoglycemia

BY ELIZABETH MECHCATIE
GAITHERSBURG, Md. — Members of a Food and Drug Administration advisory panel agreed that although there are technological issues with insulin infusion pumps, these issues are outweighed by user-related issues.

The meeting of the FDA’s General Hospital and Personal Use Devices Panel meeting was convened to discuss post-marketing reports of safety issues related to insulin infusion pumps in people with diabetes. These reports are from the FDA adverse event reporting database for devices. The panel was not asked to vote on any questions related to the topic.

Several endocrinologists on the panel stressed the importance of education for patients who receive an insulin pump in how well they do on insulin pump therapy, which is most commonly used in patients with type 1 diabetes.

Panelist Dr. Lamont Weide, an endocrinologist at Truman Medical Center, Kansas City, Mo., said that pump failure rates “seem to be very low” and that problems are usually patient driven.

Between Oct. 1, 2006, and Sept. 20, 2009, the FDA received 16,849 reports of adverse events associated with insulin pumps; most of the reports were provided by the manufacturers. At the meeting, the FDA presented information on the 16,797 reported events (including 310 deaths) for pumps made by the five top manufacturers.

The reports were far from complete: In most cases the problem with the pump was not described nor was the patient’s age included; the cause of deaths associated with the pumps had not been thoroughly investigated or evaluated, according to the FDA. In approximately 20% of the reports, the problem with the device was listed as “unknown,” and in 9% the problem was listed as “replace.” These were the two most common explanations listed among the device problems reports. And as panelists pointed out, there is no denominator so event rates cannot be calculated.

The other most common problems listed were described as display of an error message on the device (almost 3%), a need to change the mode of insulin treatment prior to panel meetings. The other most commonly reported cause of problems in patients included diabetic ketoacidosis (8%), hyperglycemia (8%), and low blood glucose (almost 5%).

Of the 310 deaths, the most commonly listed causes were diabetic coma, hyperglycemia, hypoglycemia, diabetic ketoacidosis, and unresponsiveness. There were 29 deaths associated with a motor vehicle.

Safety issues included the scenario of a pump recall or pump dysfunction and the risk associated with a patient having to change the mode of insulin treatment to insulin injections while waiting for a new pump. In the short-term (within 48 hours), the time usually needed by a manufacturer to provide a patient with a new pump, panelists said the risks were minimal, provided that patients and their families had been educated about what to do in that situation and had non-expired insulin available for injections. The long-term risks include poorer glucose control, since insulin pumps provide better glucose control and a lower risk of hypoglycemia than do multiple daily injections, according to panelists.

When asked about the relative risks associated with the continuing use of a defective pump, panelists said that a pump failure that results in oversuf-fusion of insulin would be the patient’s biggest concern, particularly during the night, when patients who do not have a glucose sensor are not testing their blood glucose.

Advisory panel members have been screened for potential conflicts of interest related to the products under discussion prior to panel meetings.

The FDA advisory panel reviewed the almost 17,000 adverse event reports and agreed insulin pump failure rates were low, and that most problems were patient driven.

No Link Between TZDs, Diabetic Macular Edema

A study of nearly 3,500 patients shows no link between thiazolidinedione use and diabetic macular edema, but given case reports of such an association, the findings still must be interpreted with caution, researchers say.

The authors of the Action to Control Cardiovascu-lar Risk in Diabetes (ACCORD) trial Eye Substudy say the findings are reassuring yet inconclusive. “We cannot rule out the possibility of either a modest protective or deleterious association,” wrote Walter T. Am-brosius, Ph.D., of Wake Forest University, Winston-Salem, N.C., and colleagues in the ACCORD Study Group. “A more definitive answer may be pro-vided from the 4-year follow-up data, which will en-able us to examine prospectively the relationship between thiazolidinedione exposure and [diabetic macular edema] incidence.”

The Eye Substudy, which involved 3,473 participants from the ACCORD trial, is the largest study to examine the association between diabetic macular edema and thiazolidinedione (TZD) use, the authors noted. Subjects had a mean age of 62 years and were eligible if they had no previous laser photocoagulation or vit-reectomy for diabetic retinopathy in either eye.

A total of 695 subjects (20%) had used TZDs, and 217 (6%) had diabetic macular edema. In the adjusted analysis, TZD use was not significantly associated with diabetic macular edema, nor were hemoglobin A1c, duration of diabetes, gender, or ethnicity. Significant as-soociation was found between TZDs and both retinopathy and age (Arch. Ophthalmol. 2010;128:312-8).

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—Kate Johnson