ONJ Less Than 1% With Bevacizumab

BY BRUCE JANCIN

SAN ANTONIO — The largest-ever analysis of osteonecrosis of the jaw occurring in women receiving the antiangiogenesis agent bevacizumab for advanced breast cancer indicates the incidence is less than 1%, even in patients receiving bisphosphonates.

The analysis involved more than 3,500 bevacizumab-treated women with locally recurrent or metastatic breast cancer prospectively followed in large clinical trials.

As such, it provides a much more accurate—and reassuring—risk estimate than the 16% incidence recently reported by Greek investigators in patients on a bisphosphonate plus bevacizumab (Avastin) or another antiangiogenesis agent, sunitinib (Sutent), for various advanced cancers (Oncology 2009;76:209-11).

The Greek report was a retrospective analysis based on 116 bisphosphonate-treated patients, only a subset of whom were on an antiangiogenesis agent, Dr. Valentina Guarneri noted at the San Antonio Breast Cancer Symposium.

In contrast, she reported on 3,560 patients on bevacizumab combined with a taxane or other standard chemotherapy as first-line treatment for locally recurrent or metastatic breast cancer. The women were participants in the open-label ATHENA study or the randomized RIBBON-1 or AVADO trials.

In the randomized trials, the incidence of osteonecrosis of the jaw (ONJ) was 0.3% in patients on bevacizumab and zero with placebo during follow-up of 10-19 months. In ATHENA, the incidence was 0.4% during 13 months of follow-up of more than 2,200 women on bevacizumab.

The incidence of ONJ was higher in bevacizumab-treated patients with prior or current exposure to bisphosphonates, but not close to the 16% figure cited in the small Greek study. In ATHENA, the incidence of ONJ was 2.4% in bevacizumab-treated patients who had been exposed to bisphosphonates and zero in those who had not.

In the two randomized trials, the rate was 0.9% in patients who had been on a bisphosphonate, compared with 0.2% in those who had not, according to Dr. Guarneri of the University of Modena and Reggio Emilia (Italy).

Detailed analysis of all ONJ cases in this series showed that dental/oral hygiene issues—a recent extraction, a loose tooth, maxillary fracture repair—were present in one-third. Thus, dental examination and avoidance of invasive dental procedures are important in patients on intravenous bisphosphonates, regardless of whether they're on bevacizumab, she added.

Disclosures: This study was funded by F. Hoffmann-La Roche Ltd.

Combo Tx Improves BMD at Spine, Hip

Major Findings: Treatment with teriparatide plus zoledronic acid increased spinal bone mineral density more than either drug alone.

Source of Data: One-year study of 412 postmenopausal women with previously untreated osteoporosis.

Disclosures: The study was sponsored by Novartis, which makes Zometa. Dr. Cosman reported that she has received consulting fees from Novartis and other pharmaceutical companies.

BY KERRI WACHTER

DENVER — Bone mineral density at the spine and hip increased more rapidly and to a greater degree with combined teriparatide and zoledronic acid than with either agent alone in a 1-year study of 412 postmenopausal women with previously untreated osteoporosis.

"Combination therapy could

therefore be considered in some patients at high risk for hip and other fractures," Dr. Felicia Cosman said at the annual meeting of the American Society for Bone and Mineral Research.

Clinical fractures were assessed as part of serious adverse event monitoring and were confirmed using radiographic reports. There were 13 fractures in the zoledronic acid (Zometa) group, 8 in the



Same Name. New Size.

Introducing 3 mL of Humalog® and Humulin® R U-100 in a Smaller Vial*

The New Smaller Vial, Another Insulin Delivery Option Intended To: Give hospitals more flexibility when evaluating insulin storage and distribution (floor stock vs individual patient supply), in addition to the 10 mL vial and Humalog® KwikPen™.

- Same Bar-Coding Technique, New Size
- Same Color-Differentiating System, New Size
- National Drug Code (NDC)

Humalog - NDC Number - 0002-7510-17 Humulin R U-100 - NDC Number - 0002-8215-17

Indication

Humalog is for use in patients with diabetes mellitus for the control of hyperglycemia. Humalog should be used with longer-acting insulin, except when used in combination with sulfonylureas in patients with type 2 diabetes.

Select Safety Information

Hypoglycemia is the most common adverse effect associated with insulins, including Humalog.

When used as a mealtime insulin, Humalog should be given within 15 minutes before or immediately after a meal.

*3 mL of Humalog and Humulin R U-100 are in a 5 mL vial.

Pens are for single-patient use only and should not be shared among patients.

Please see Important Safety Information on adjacent page and accompanying Brief Summary of full Prescribing Information.

insulin lispro injection (rDNA origin)

teriparatide (Forteo) group, and 4 in the combination therapy group.

At 1 year, the increase in spine BMD was 4.4% with zoledronic acid alone, 7.1% with the teriparatide alone, and 7.5% with combination therapy. Spine BMD increased more rapidly with combination therapy, but it eventually caught up to similar levels with teriparatide alone.

Similarly significant increases in total hip BMD occurred in all treatment groups, said Dr. Cosman, medical director of the clinical research center at Helen Hayes Hospital in West Haverstraw, N.Y.

The study included three active treat-

ment groups: 5 mg zoledronic acid at baseline (open arm), 20 mcg daily subcutaneous teriparatide (placebo infusion at baseline), and a combination of the two. All patients received calcium and vitamin D supplements. Average age at baseline was 65 years. The women had a mean spine T score of -2.9, and a mean total hip T score of -1.9. Baseline variables did not differ among the three groups.

The researchers also measured two bone markers: Beta C-terminal telopeptide of type I collagen (CTx) is a marker of bone resorption, and amino-terminal propeptide of type 1 procollagen (P1NP) is a marker of bone formation.

"In the combination group, there is first a small increase and then a brief but modest decline in P1NP, followed by a progressive rise thereafter," she said. The decline in P1NP for the combination group is not as great as for those on zoledronic acid alone.

For patients on zoledronic acid alone, there was a rapid and robust suppression of beta CTx up to 4 weeks, when the levels trended back toward baseline. There was no change in beta CTx in patients on teriparatide alone for the first month. Then beta CTx levels began to increase,

peaking at about 6 months. In the combination group, there was a prominent suppression of beta CTx (bone resorption) similar to that of zoledronic acid over the first 2 months. A gradual increase followed, with levels greater than at baseline for the latter half of the year.

For P1NP, there is a lag in suppression compared with beta CTx with zoledronic acid treatment, followed by prominent suppression with a nadir/plateau at 6 months. For those on teriparatide alone, there is a doubling of baseline P1NP levels by 4 weeks, with levels peaking at about 6 months.

Indication

Humalog (insulin lispro injection [rDNA origin]) is for use in patients with diabetes mellitus for the control of hyperglycemia. Humalog should be used with longer-acting insulin, except when used in combination with sulfonylureas in patients with type 2 diabetes.

Important Safety Information

Humalog is contraindicated during episodes of hypoglycemia and in patients sensitive to Humalog or one of its excipients.

Humalog differs from regular human insulin by its rapid onset of action as well as a shorter duration of action. Therefore, when used as a mealtime insulin, Humalog should be given within 15 minutes before or immediately after a meal.

Due to the short duration of action of Humalog, patients with type 1 diabetes also require a longer-acting insulin to maintain glucose control (except when using an insulin pump). Glucose monitoring is recommended for all patients with diabetes.

The safety and effectiveness of Humalog in patients less than 3 years of age have not been established. There are no adequate and well-controlled clinical studies of the use of Humalog in pregnant or nursing women.

Starting or changing insulin therapy should be done cautiously and only under medical supervision.

Hypoglycemia

Hypoglycemia is the most common adverse effect associated with insulins, including Humalog. Hypoglycemia can happen suddenly, and symptoms may be different for each person and may change from time to time. Severe hypoglycemia can cause seizures and may be life-threatening.

Other Side Effects

Other potential side effects associated with the use of insulins include: hypokalemia, weight gain, lipodystrophy, and hypersensitivity. Systemic allergy is less common, but may be life-threatening. Because of the difference in action of Humalog, care should be taken in patients in whom hypoglycemia or hypokalemia may be clinically relevant (eg, those who are fasting, have autonomic neuropathy or renal impairment, are using potassium-lowering drugs, or taking drugs sensitive to serum potassium level).

For additional safety profile and other important prescribing considerations, see accompanying Brief Summary of full Prescribing Information.

Please see full user manual that accompanies the pen.

Humalog® is a registered trademark of Eli Lilly and Company and is available by prescription only. Humalog® KwikPen $^{\text{TM}}$ is a trademark of Eli Lilly and Company and is available by prescription only. Humulin® is a registered trademark of Eli Lilly and Company.

insulin lispro injection (rDNA origin)

HI59950-3 1109 PRINTED IN USA ©2009, LILLY USA, LLC. ALL RIGHTS RESERVED



