

## Rituximab as Maintenance Therapy in Elderly Patients With Mantle Cell Lymphoma

The first results from the European Mantle Cell Lymphoma (MCL) Network study showed that maintenance therapy with rituximab (Rituxan, Genentech/Biogen Idec) improved progression-free survival (PFS) in patients with MCL who had already responded to rituximab in combination with chemotherapy. These results were reported in June at the 11th International Conference on Malignant Lymphoma and at the 16th annual Congress of the European Hematology Association. Led by Kluin-Nelemans and colleagues and conducted in 8 countries between 2004 and 2010, the study enrolled 560 patients older than 60 years with stage II–IV disease who were not eligible for high-dose therapy. The median patient age was 70 years; 68% were male and 79% had stage IV disease. Patients were randomized to receive either rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone (R-CHOP) 3 times per week for 6–8 cycles or rituximab, fludarabine, and cyclophosphamide 4 times per week for 6 cycles. Complete or partial remission was observed in 288 patients, who were then randomized to maintenance with either rituximab (1 maintenance dose every 2 months) or interferon-alpha (1–3 doses per week). A total of 233 patients were considered evaluable. A median follow-up of 33 months showed that patients receiving maintenance therapy with rituximab experienced more than double the remission duration of those treated with interferon-alpha ( $P=.0109$ ). There were no differences in overall survival between the treatment arms, however. Therapy discontinuation occurred in 80% of patients in the interferon-alpha arm and 34% of patients in the rituximab arm. Nonhematologic grade 3/4 adverse events were rare, except for infections, which occurred in 7% of patients in each arm. Maintenance therapy with rituximab was associated with significantly less fatigue ( $P<.001$ ), fewer infections ( $P<.022$ ), and lower rates of decreased white blood cell and platelet counts ( $P<.022$ ). At 4 years after initiation of therapy, 77% of patients receiving rituximab and 62% of patients receiving interferon-alpha remained alive. Of those who had received R-CHOP induction followed by rituximab maintenance, 87% remained alive at 4 years. The study investigators recommend that R-CHOP followed by rituximab maintenance therapy (1 dose every 2 months)

should be considered as the new standard of care for elderly patients with MCL.

## Semuloparin Reduces the Risk of Thromboembolic Events in Cancer Patients Receiving Chemotherapy

Results from the randomized, double-blind, phase III SAVE-ONCO (Evaluation of AVE5026 in the Prevention of Venous Thromboembolism in Cancer Patients Undergoing Chemotherapy) trial by Agnelli and colleagues were presented at the 2011 American Society of Clinical Oncology annual meeting (abstract LBA9014). This trial, which sought to assess the investigational, ultra-low molecular weight heparin semuloparin, enrolled 3,212 patients who were at high risk of symptomatic-deep vein thromboembolism (DVT), nonfatal pulmonary embolism (PE), or venous thromboembolism (VTE). Patients had metastatic or locally advanced solid tumors in areas including the lungs, pancreas, stomach, colon/rectum, bladder, and ovaries for which they were initiating a chemotherapy regimen with a minimum treatment intent of 3 months. Most patients (68%) had metastatic cancer; 37% of patients had lung cancer and 29% had cancer of the colon/rectum. Patients were randomized to receive either a daily subcutaneous administration of semuloparin (20 mg) or placebo for at least 3 months or until there was a change in the chemotherapy regimen. The primary endpoint was the composite of any symptomatic-DVT, nonfatal PE, and VTE-related death. Any clinically relevant bleeding was the main safety outcome of the study. Of the 1,608 patients treated with semuloparin, 20 patients (1.2%) had a thromboembolic event, versus 55 of the 1,604 patients who received a placebo (3.4%). Thus, patients treated with semuloparin achieved a 64% reduction in relative risk for such thromboembolic events (hazard ratio [HR], 0.36, 95% confidence interval [CI], 0.21–0.60;  $P<.0001$ , intent-to-treat analysis). Although the rate of clinically relevant bleeding was higher at 2.8% for patients treated with semuloparin versus 2% for patients who received a placebo (HR, 1.40, 95% CI, 0.89–2.21), the incidence of major bleeding was similarly low between treatment arms, at 1.2% and 1.1%, respectively (HR, 1.05, 95% CI, 0.55–1.99). Based on these findings, there are plans to submit semuloparin for regulatory filing in the third quarter of 2011.