PHARMACY CORNER

Patch Targets Nausea, Vomiting

A transdermal formulation of the 5-HT$_3$ inhibitor Sancuso™ (granisetron, ProStrakan Group) has received U.S. Food and Drug Administration (FDA) approval. The patch provides an alternative for patients with dysphagia or for whom daily IV administration is not feasible. The patch is applied to the upper, outer arm. Sancuso is delivered over five days and is indicated for the prevention of chemotherapy-induced nausea and vomiting (CINV) with moderately to highly emetogenic chemotherapy.

The most common adverse reaction associated with Sancuso was constipation (8.7%); some patients experienced mild skin sensitivity from the adhesive patch. Nurses should be aware that any 5HT$_3$ inhibitor may mask symptoms of a progressive ileus or gastric distention.

Zoledronic Acid Helps Prevent Bone Loss

Treatment of younger women with chemotherapy often results in early menopause. A significant consequence of the resulting estrogen deficiency is the onset of early osteoporosis and an increased fracture risk. As reported by Hershman et al. (2008), loss of bone mass in women with early breast cancer may be preventable with the use of the bisphosphonate zoledronic acid (Zometa™, Novartis Pharmaceuticals). Premenopausal women undergoing adjuvant chemotherapy for early-stage breast cancer (N = 101) were randomized to receive either placebo or 4 mg zoledronic acid by IV every three months. Eighty-five women completed the 12-month study. Although women in the placebo group demonstrated significant decreases in bone mineral density of the lumbar spine and hip, women treated with zoledronic acid maintained stable bone mineral density ($p < 0.0001$) (Hershman et al.).

Normal bone function includes a continual balance between osteoclastic (bone "destructive") and osteoblastic (bone "building") activity. Zoledronic acid works to maintain bone density by inhibiting osteoclastic processes. The drug also is used in the treatment of hypercalcemia of malignancy, multiple myeloma, and osteolytic metastases from solid tumors. Usage is contraindicated in the presence of renal failure (Osborne, 2002), and caution should be used when given with other nephrotoxic medications. Nurses should monitor for and teach patients the signs and symptoms of osteonecrosis of the jaw, a serious complication associated with bisphosphonate therapy when patients are on treatment (Cope, 2005). No major dental work should be done during therapy, and patients should be instructed to consult with their oncologists prior to any dental procedures as well as make their dentists aware of exposure to zoledronic acid.

Nurses also should be aware of the potential for increased and prolonged hypocalcemia when zoledronic acid is given concomitantly with aminoglycosides or loop diuretics.

Cope, D. (2005). Clinical update: A nonhealing fractured mandible. *Clinical Journal of Oncology Nursing, 9*(6), 685–687.

Hershman, D.L., McMahon, D.J., Crew, K.D., Cremers, S., Irani, D., Cucchiara, G., et al. (2008). Zoledronic acid prevents bone loss in premenopausal women undergoing adjuvant chemotherapy for early-stage breast cancer. *Journal of Clinical Oncology, 26*(29), 4739–4745.

Osborne, A. (2002). Zoledronic acid. *Clinical Journal of Oncology Nursing, 6*(6), 365–366.

Palonosetron Hydrochloride Available in Capsule Form

Palonosetron hydrochloride (Aloxi™, Eisai & Hilsinn Healthcare) is now available in a 0.5 mg capsule to be used in the prevention of CINV. The capsule should be given one hour prior to chemotherapy administration and may be taken with or without food. Palonosetron hydrochloride, a 5-HT$_3$ inhibitor, was previously approved for IV formulations of 0.25 mg given over 30 seconds for prevention of CINV and 0.075 mg given over 10 seconds for the prevention of nausea and vomiting after surgery.

For more information, visit www.aloxi.com/PrescribingInformation.aspx.

Cetuximab May Have Benefits for Patients With Head and Neck Cancers

Adding the monoclonal antibody cetuximab (Erbitux®, Bristol-Myers Squibb and ImClone) to platinum-based regimens may have use in the first-line setting for treating squamous cell head and neck cancers. In a study funded by Merck of previously untreated patients (N = 442), patients were randomized to receive standard platinum-based regimens with (n = 222) or without (n = 220) cetuximab. The platinum regimens included fluorouracil along with cisplatin or carboplatin in three-week cycles for a maximum of six cycles. Cetuximab was dosed at 400 mg/m^2 for the initial dose followed by weekly doses at 250 mg/m^2 until disease progression or intolerable toxicities presented. Patients in the cetuximab arm demonstrated improved median overall survival (10.1 months versus 7.4 months, $p = 0.04$) and median progression-free survival time (5.6 months versus 3.3 months, $p < 0.001$) (Vermorken et al., 2008).

Vermorken, J.B., Mesia, R., Rivera, F., Remenar, E., Kawecki, A., Rottey, S., et al. (2008). Platinum-based chemotherapy plus cetuximab in head and neck cancer. *New England Journal of Medicine, 359*(11), 1116–1127.

Platelet Stimulator Approved for Certain Populations

The FDA has approved the thrombopoiesis-stimulating agent romiplostim (Nplate™, Amgen Inc.) for use in patients with chronic immune thrombocytopenic purpura (ITP) who have failed to respond sufficiently to standard first-line therapies. Risks associated with romiplostim use include fibrous deposits in the bone marrow and blood clots secondary to excessive increases in platelet counts. Upon cessation of romiplostim therapy, a risk exists for platelet nadirs to be even lower than levels observed prior to therapy initiation. In addition, for patients with myelodysplasia, a risk exists of transformation to acute myeloid leukemia (AML). According to an FDA news release, 4 of 44 patients with myelodysplasia receiving romiplostim developed AML. However, the French-American-British classification of the patients prior to