Research Highlights

Cynthia R. King, PhD, NP, MSN, RN, FAAN
Associate Editor

Osteoporosis Treatment May Help Men Receiving Androgen-Deprivation Therapy

According to a study presented by the University of Pittsburgh Medical Center at the American Society of Clinical Oncology Prostate Cancer Symposium in February, men with prostate cancer who experience bone loss from androgen-deprivation therapy could benefit from weekly oral alendronate therapy.

The study included 112 men with prostate cancer who had an average age of 71. After an average of two years of androgen-deprivation therapy for prostate cancer, only 9% of the men had normal bone mass, whereas 52% had low bone mass and 39% developed osteoporosis. To study the effect of alendronate on the men, researchers randomized the men into two groups to receive either alendronate or placebo orally once a week. At the one-year follow-up assessment, bone mass in the spine and hips increased significantly ($p < 0.05$) in the men treated with alendronate (4.9% and 2.1% for spine and hips, respectively). By comparison, men in the placebo group had significant losses ($p < 0.05$) of bone mass in the spine and hips (1.3% and 0.7%, respectively). The therapy was well tolerated. The researchers concluded that because most men remain on androgen-deprivation therapy indefinitely, healthcare providers must assess bone mass and consider ways to prevent bone loss.

Nelson, J.B., Greenspan, S.L., Resnick, N.M., Trump, D.L., & Parker, R.A. (2006, February). *Once weekly oral alendronate prevents bone loss in men in androgen deprivation therapy.* Abstract presented at the American Society of Clinical Oncology Prostate Cancer Symposium, San Francisco, CA.

Adding Thalidomide to Myeloma Therapy Has Little Benefit

Melphalan-based high-dose therapy has been shown to improve the survival of patients with multiple myeloma. However, researchers did not know whether adding thalidomide, an agent with activity against advanced and refractory disease, to the therapy could further improve outcomes. The investigators assessed the outcomes of 668 patients who were randomized to receive two cycles of melphalan-based therapy prior to hematopoietic stem cell transplantation with or without thalidomide.

After a median follow-up period of 42 months, the complete response rate in the thalidomide group was 62%, significantly higher than the 43% rate noted in the control group ($p < 0.001$). Similarly, the five-year event-free survival rate in the thalidomide group also was higher, 56% versus 44% ($p = 0.01$). However, partly resulting from a lower response rate to salvage therapy, the addition of thalidomide did not improve overall survival; both groups had five-year overall survival rates of about 65%. The median survival period after relapse in the thalidomide group was 1.1 years, compared with a period of 2.7 years in the control group ($p = 0.001$). Additionally, deep vein thrombosis occurred in 34% of the thalidomide-treated patients compared with 18% of the controls ($p < 0.001$). The use of low–molecular-weight heparin did not eliminate the elevated risk. Other adverse events seen more frequently in the thalidomide group included peripheral neuropathy, syncope, bowel obstruction, tremor, and neutropenia.

Barlogie, B., Tricot, G., Anaissie, E., Shaugnessy, J., Rasmussen, E., van Rhee, F., et al. (2006). Thalidomide and hematopoietic stem-cell transplantation for multiple myeloma. *New England Journal of Medicine, 354,* 1021–1030.

Custom Chemotherapy Improves Survival Rates for Children With Bone Cancer

The Denver Clinic for Extremities at Risk has reported a 90% survival rate for children suffering from osteosarcoma, with more than 90% of patients avoiding amputation. Osteosarcoma is the most common form of bone cancer, and, historically, most children have been treated with amputation.

In two published studies, the Denver Clinic developed "custom chemotherapy" protocols for children with bone cancer. Using intra-arterial chemotherapy, doctors injected chemotherapy drugs directly into the tumor at a concentration five to nine times greater than the same drug administered via IV. Patients received IV and intra-arterial chemotherapy prior to surgery. Once the cancer was maximally killed, patients underwent surgical resection of the tumor. More than 90% of children were saved from amputation.

The Denver Clinic attributes its success to an ongoing multidisciplinary approach that develops unique treatment plans for each child. Although cancers of the bone are rare, the standard medical and surgical experience for children is difficult and often produces poor results, whereas customized chemotherapy regimens for osteosarcoma in children have saved limbs and lives.

Cullen, J.W., Jamroz, B.A., Stevens, S.L., Madsen, W., Hinshaw, I., Wilkins, R.M., et al. (2005). The value of serial arteriography in osteosarcoma: Delivery of chemotherapy, determination of therapy duration, and prediction of necrosis. *Journal of Vascular and Intervention Radiology, 16,* 1107–1119.

Ethnicity May Influence End-of-Life Care

An American Geriatric Society study investigated how people's ethnicity and cultural backgrounds affect preferences for end-of-life care. The study consisted of 73 people divided into 10 focus groups. Participants identified themselves as Arab Muslim, Arab Christian, Hispanic or Latino, African American, or Caucasian. They participated in exercises, listened to scenarios, and held discussions about end-of-life issues. All participants were aged 50 or older.

Among the findings were that all Arab Americans (Muslim and Christian) indicated that family members take care of the dying and that participants would not prefer to enter a nursing home as they near the end of their lives. They also did not want heroic measures taken to prolong life. Hispanic participants

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