Bisphosphonates are routinely used for managing metastatic bone disease. There is insufficient evidence to support the superior efficacy of one bisphosphonate over another [1]. The efficacies of newer agents such as zoledronic acid (Zometa®; Novartis Pharmaceuticals Corporation, East Hanover, NJ, http://www.pharma.us.novartis.com) and ibandronate (Bondronat®; F. Hoffmann-La Roche Ltd., Basel, Switzerland, http://www.roche.com) are probably similar, and not very different from that of pamidronate (Aredia®; Novartis Pharmaceuticals Corporation), suggesting that a “ceiling effect” has been reached for these agents, at least in terms of their ability to prevent skeletal-related events. The safety and convenience of treatment are therefore important when choosing among bisphosphonates.

Renal safety, in particular, must be considered because cancer patients often have renal impairment and usually take multiple concomitant medications, which may be nephrotoxic. Over the past few years, case reports and randomized trials have shown a non-negligible risk for renal toxicity with some i.v. bisphosphonates [2–5]. Drug-induced renal toxicity can greatly complicate antineoplastic treatment. Renal safety data for ibandronate suggest that renal toxicity is not a bisphosphonate class effect at therapeutically relevant doses. In phase III studies, i.v. ibandronate had a renal safety profile comparable with that of placebo for 2 years of treatment, and noncontrolled extension studies showed that long-term use (up to 4 years) showed no additional renal safety concerns [6]. Phase II trials of loading-dose ibandronate (e.g., 6 mg given on three consecutive days) showed no renal adverse effects, even in patients with pre-existing renal impairment [7, 8].

This supplement is based on the proceedings of the symposium entitled “Bondronat®: Maximizing Renal Safety in Metastatic Bone Disease,” held during the fifth International Conference on Cancer-Induced Bone Disease in Davos, Switzerland, on March 23, 2005. The supplement primarily focuses on renal safety data for ibandronate, discussing clinical implications of drug-induced nephrotoxicity and treatment recommendations. The first article summarizes the preclinical data and provides a rationale for the differing renal safety profiles among i.v. bisphosphonates [9]. Next, Dr. Richard Bell outlines the clinical efficacy data for i.v. and oral ibandronate in patients with bone metastases from breast cancer, colorectal cancer, and other tumors [10]. In addition, Dr. Bell discusses studies that use a loading-dose regimen of i.v. ibandronate to rapidly relieve metastatic bone pain. In the third article, Dr. Graham H. Jackson focuses on the available renal safety data for standard- and loading-dose i.v. ibandronate [11]. Finally, Dr. Roger von Moos outlines recommendations for managing renal safety and discusses the use of oral bisphosphonates as a way to circumvent the renal safety issues of some i.v. agents.

**Disclosure of Potential Conflicts of Interest**

Dr. Body has acted as a consultant and performed contract work for Hoffmann-La Roche.
REFERENCES


