

[2004] [SAT0228] A NOVEL BISPHOSPHONATE DOSING REGIMEN: ONCE-MONTHLY ORAL IBANDRONATE

**C. Cooper<sup>1</sup>, S. Adami<sup>2</sup>, J.J. Stepan<sup>3</sup>, C. Wiese<sup>4</sup>, K. Wilson<sup>4</sup>, K. Coutant<sup>4</sup>, E. Dumont<sup>5</sup>, J. Reginster<sup>6</sup>**  
**<sup>1</sup>MRC Environmental Epidemiology Unit, Southampton General Hospital, Southampton, United Kingdom, <sup>2</sup>Department of Rheumatology, University of Verona, Verona, Italy, <sup>3</sup>Department of Internal Medicine, Charles University, Prague, Czech Republic, <sup>4</sup>F. Hoffmann-La Roche Ltd, Basel, Switzerland, <sup>5</sup>GlaxoSmithKline, Collegeville, United States, <sup>6</sup>University of Liège, Liège, Belgium**

**Background:** Current oral bisphosphonates must be taken daily or weekly. However, due to cumbersome dosing instructions, some patients may fail to adhere to these regimens, compromising therapeutic outcomes. Patients are likely to find less frequent regimens more acceptable. Ibandronate is a potent, nitrogen-containing bisphosphonate with proven antifracture efficacy when given daily or intermittently with a between-dose interval of >2 months. The safety, pharmacodynamics and pharmacokinetics of ibandronate, when administered as a convenient once-monthly oral regimen, has recently been evaluated in a randomised, double-blind, phase I, dose-finding study (Monthly Oral Pilot Study: MOPS). The findings of this study are reported herein.**Methods:** A total of 144 postmenopausal women were randomised to 3 months' treatment with one of five oral monthly regimens: placebo; ibandronate 50mg; ibandronate 50mg (first cycle) then 100mg (subsequent cycles); ibandronate 100mg or ibandronate 150mg. Participants did not receive additional calcium or vitamin D supplements.**Results:** Once-monthly oral ibandronate was highly effective in decreasing bone resorption, as indicated by substantial and dose-dependent decreases in sCTX and uCTX versus baseline after 3 months (measurements taken 30 days after final dose): -12.3% and -5.5% for placebo and -56.7% and -54.1% for 150mg ibandronate, respectively. Exposure (AUC and Cmax) to ibandronate also increased with dose. The tolerability of oral monthly ibandronate was similar to placebo and no unexpected safety concerns emerged.**Conclusion:** These findings demonstrate the potential for once-monthly oral ibandronate dosing. However, given the limited patient numbers and lack of supplemental therapy in the MOPS study, further investigation is warranted. The efficacy and safety of oral monthly ibandronate is currently under investigation in a phase III, randomised, double-blind, non-inferiority study (Monthly Oral iBandronate In LadiEs: MOBILE) in 1,600 women (aged 55-80 years; menopausal ≥5 years) with osteoporosis (spinal BMD T-score <-2.5 and ≥-5.0). Participants are receiving one of the following four regimens for 2 years: 2.5mg oral daily ibandronate; 100mg oral monthly ibandronate (as 50mg doses on two consecutive days), 100mg or 150mg oral monthly ibandronate (on a single day). All participants are taking daily calcium (500-1500mg) and vitamin D (400IU) supplements. There is continuous monitoring of adverse events, including clinical vertebral and non-vertebral fractures. Antifracture efficacy will be concluded if, as expected, the monthly regimens show non-inferiority to the proven daily regimen for the primary endpoint: lumbar spine BMD change (%) at 1 year. Oral monthly ibandronate is likely to optimally combine efficacy, tolerability and patient convenience. This, in turn, is expected to improve patient adherence and, hence, therapeutic outcomes in postmenopausal osteoporosis.

Osteoporosis Clinical aspects and treatment

[Close Window](#)