199. ALENDRONATE DISCONTINUATION IN POSTMENOPAUSAL WOMEN TREATED FOR OSTEOPOROSIS

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Background: Bisphosphonates (BP) are first-line treatments for postmenopausal osteoporosis but long-term treatment may cause rare but serious side-effects (e.g. jaw osteonecrosis, atypical femoral fracture). Drug holidays may reduce the risks of these side-effects, after 3–5 years of BP treatment. We report the effect of discontinuation of alendronate treatment on bone turnover and fractures in an osteoporosis service setting.

Methods: We measured urinary N-telopeptide crosslink of type I collagen (uNTx) in postmenopausal women who began an alendronate holiday between 2008 and 2012. Second-void, morning uNTx was measured by ELISA and corrected for urine creatinine (Cr). Fracture data were collected and evaluated in relation to bone health, excluding high-trauma fractures.

Results: 85 women (mean [s.d.] age 70.1 [9.1] years) had received a median (range) of 9 (4–19) years of alendronate. No subject had a NTx level above the manufacturer’s premenopausal reference range (5–65 nM BCE/mM Cr) at discontinuation. Subjects were followed up for a median of 1.6 years post discontinuation. After approximately 1 year off treatment the uNTx level had risen above the premenopausal limit in 57/73 subjects (6.8%). Subjects were divided into those whose uNTX had changed less (Group A, n = 30), or more (Group B, n = 55) than the least significant change (LSC = 28%) after discontinuing treatment. There was no difference in either age (70.1 [9.1] vs 69.6 [5.6]; P = NS) or duration of bisphosphonate treatment (median 9 years in both groups; P = NS). In Group A, there was no significant difference in uNTx levels at baseline, Year 1 or Year 2 (median 33.6; 33.4 and 32.4 respectively). The Group B baseline uNTx level was below that of Group A (median 22.9 vs 33.6; P < 0.001) but by Year 1 the uNTx level was higher (median 43.7 vs 33.4; P < 0.001). 7 patients reported a low trauma fracture during the follow-up period, 1 rib, 2 metatarsals, 2 pelvic fractures and 2 vertebrae. 3 fractures were adjudicated to be major osteoporotic fragility fractures. There was no difference in the incidence of osteoporotic fracture between the Groups A and B (3.3% vs 3.6%; χ² = 0.942). In Group A only 1 subject had an osteoporotic fragility fracture, this subject was osteopenic at the femoral neck, and osteoporotic at the spine. Both vertebral fractures occurred in Group B; one subject was osteoporotic at spine but osteopenic at the femoral neck while the other was osteoporotic at both sites.

Conclusion: uNTx levels rose above the premenopausal reference range in the first year in around 7% of subjects who ceased alendronate treatment, but individual uNTx levels either stay suppressed or rise, over a 2 year period. Early increases in uNTX might predispose to recurrent fracture, but overall fracture rates are low during bisphosphonate holidays.
Disclosure statement: The authors have declared no conflicts of interest.