Maintenance of Low Disease Activity following Tumor Necrosis Factor Inhibitor Dose Tapering in Ankylosing Spondylitis

To the Editor:

Clinicians, patients, and others have shown considerable interest in the subject of tumor necrosis factor inhibitor (TNFi) dose tapering in ankylosing spondylitis (AS) because of the drug's high cost and potential for toxicity[1,2,3]. In the ANSWERS (ANkylosing Spondylitis With Etanercept RegimeS) trial, we demonstrated that over 50% of participants originally treated with etanercept (ETN) 50 mg once weekly (OW) who were then randomized to a tapered dose of ETN 25 mg OW maintained the primary outcome measure [Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) reduction by ≥ 50% or ≥ 2 points, and a ≥ 2-unit reduction in spinal pain measured on a 10-point visual analog scale] at the 6-month followup[4].

All patients enrolled in the initial study gave their written consent. Ethical approval for the ANSWERS study was granted by North West 2 REC Liverpool Central (UK); trial register: National Institute for Health Research National Research Register (public.ukcrn.org.uk/search, Study ID: 9375) and European Clinical Trial Database (eudract.ema.europe.eu/eudract-web/index.faces, EudraCT number: 2010-029013-10). We have now followed this cohort prospectively to determine whether the "tapered" patients in the ETN 25 mg OW arm could successfully maintain the primary outcome measure in longterm followup. In patients who failed to maintain this response, full-dose ETN 50 mg OW was reinstated.

Twelve patients were included within the ETN 25 mg OW group; 75% men, mean age 52 years, median BASDAI 2.8 [interquartile range (IQR) 2.0]. After a mean followup period of 50 months, 4 patients (33%) continued treatment with ETN 25 mg. One patient discontinued ETN because of side effects and has not been receiving biologic therapy. The remaining 7 patients experienced a flare of disease after a mean of 16 months and were reinstated with ETN 50 mg OW; 5 reattained low disease activity and 2 were switched and responded to an alternative TNFi.

Twenty-one patients continued treatment with ETN 50 mg: 95% men, mean age 60 years, median BASDAI 1.9 (IQR 1.6). Fourteen patients (67%) continued treatment with ETN 50 mg, 3 were lost to followup, 2 developed inflammatory bowel disease and switched to adalimumab (ADA), 1 flared at 15 months and switched to ADA, and another discontinued ETN because of mood disturbance and has not continued biologic therapy.

These data indicate that dose reduction is feasible in patients with stable AS and that disease control can be regained either by reverting to full-dose therapy or by switching to an alternative TNFi. Larger studies are needed to determine the clinical phenotype of patients most suitable for dose tapering.

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