One-third of psoriatic arthritis patients are not receiving optimal dosing of adalimumab

June 11 2014

Data presented today at the European League Against Rheumatism Annual Congress (EULAR 2014) showed that a significant number of patients with psoriatic arthritis (PsA) were not receiving doses of the tumour necrosis factor-alpha (TNFα) inhibitor adalimumab necessary to achieve optimal clinical benefit.[1] Further data revealed that, in the case of the TNFα inhibitor infliximab, nearly three-quarters of PsA patients were on doses lower than recommended in international guidelines.[2]

In the first study, after 28 weeks of treatment one-third of PsA patients were found to have serum adalimumab trough concentrations below the 5 mg/L level shown to have an optimal effect. However, these low doses still showed reasonable efficacy[1]

In the second study, low dosing of infliximab in more than 70% of a population of Icelandic and Danish PsA patients did not seem to alter either treatment response or adherence to therapy[2]

PsA is a chronic inflammatory arthritis associated with psoriasis, which significantly impacts health-related quality of life, and may lead to severe, disabling joint damage.[3] Psoriasis occurs in 1-3% of the population,[4] with PsA occurring in up to 30% of those of cases[5]

One third of PsA patients not receiving optimal dosing of adalimumab

Presenting the results of the Dutch study, lead author Mr. Erik Vogelzang of the Jan van Breemen Research Institute, Reade, Amsterdam, Netherlands reported that serum trough levels of adalimumab of 5- 8 mg/L appeared necessary to achieve the most optimal clinical benefit. Concentrations above 8 mg/L appeared to confer no additional benefit; however, concentrations of approximately 1.0 mg/L showed reasonable efficacy.[1]

"These results linking serum adalimumab trough concentrations to clinical response in PsA patients confirmed the findings from a previous study in RA patients," [6] said Mr. Erik Vogelzang.

"However, interestingly, of the 103 consecutive patients with PsA prescribed adalimumab, 36 (35%) appeared to be receiving less than optimal dosing, with a trough adalimumab concentration below 5 mg/L (the lowest point of this ideal dose range). A substantial group of PsA patients that use adalimumab are therefore not able to profit from its optimal clinical benefit," Vogelzang concluded.

This was a prospective cohort study in which 103 consecutive patients diagnosed with PsA were treated with 40 mg adalimumab subcutaneously every other week. Adalimumab concentrations at 28 weeks of treatment were measured in serum trough samples, using an enzyme linked immunosorbent assay (ELISA). Clinical response was defined as a change in disease activity score in 28 joints (ΔDAS28) between baseline and week 28. At 28 weeks of treatment, serum trough concentrations ranged from 0.0 to 18.8 mg/L, with a mean of 7.2 mg/L. In 48 (47%), trough adalimumab concentrations exceeded the optimal threshold of 8 mg/L.

Low dosing of infliximab does not appear to alter treatment response or adherence

International guidelines recommend that patients with arthritis PsA prescribed the TNFα inhibitor infliximab should be dosed with 5 mg/kg bodyweight every 8th week. However, responses to lower doses have not been previously well documented.[2]

Dr Bente Glintborg of the Copenhagen Centre for Arthritis Research, and Centre for Rheumatology and Spine Diseases, Glostrup Hospital, Denmark presented the clinical outcomes in a large cohort of TNFα inhibitor-naïve PsA patients treated with infliximab, stratified by country (Denmark vs. Iceland), and by their dose regimen and escalation.

"More than 70% of Icelandic and Danish PsA patients treated with infliximab received sustained doses below the recommended 5 mg/kg every eight weeks," said Dr Glintborg. "Lower start doses did not appear to affect either drug adherence or response," she added. Thus, in clinical practise a low start infliximab dose with subsequent step up therapy seems to be an efficient strategy.

Danish patients received higher infliximab doses than Icelandic patients at baseline (median (IQR) 3.1 (3.0-3.8) mg/kg vs. 2.3 (2.1-2.9) mg/kg, p