Anti-infliximab originator antibodies also cross-react with infliximab biosimilar

BY AMY KARON

Antibodies to the originator biologic infliximab (Remicade) cross-reacted with the infliximab biosimilar CT-P13, marketed as Remsima or Inflectra, according to a multicentre, controlled study of patients with rheumatoid arthritis and spondyloarthritis presented at the congress.

Based on the findings, patients with antibodies to Remicade should not be switched to Remsima or Inflectra because cross-reactivity will increase clearance of CT-P13, thereby potentially eroding therapeutic response and heightening the risk of infusion-related reactions, said senior author Dr. Daniel Nagore of the molecular biology testing company Progenika-Grifols in Derio, Spain, and his colleagues. These results should "help physicians better understand the implications of drug switching in the context of infliximab immunogenicity, and increase the awareness of biologic drug monitoring in patients with rheumatic diseases," Dr. Nagore added in an interview.

Infliximab is a tumor necrosis factor (TNF)–alpha blocker used in the treatment of rheumatoid arthritis (RA), spondyloarthritis (SpA), plaque psoriasis, psoriatic arthritis, and inflammatory bowel disease (IBD). CT-P13 is the first anti–TNF-alpha biosimilar and was approved for the same indications as Remicade in 2013 by the European Medicines Agency. In a prior study, antibodies to Remicade cross-reacted with CT-P13 in patients with IBD (Gut. 2015 Apr 20. doi: 10.1136/gutjnl-2015-309290). To explore Remicade antibody cross-reactivity in other rheumatic diseases, Dr. Nagore and his colleagues retrospectively selected 250 patients who were currently receiving Remicade for RA or SpA, and 77 infliximab-naive control patients, about one-quarter of whom were healthy and three-quarters of whom had rheumatic diseases. Patients were tested in parallel with three different bridging enzyme-linked immunosorbent assays that tested for antibodies to Remicade (Promonitor-ANTI-IFX kit, Progenika-Grifols, Spain), Remsima (Orion Pharma, Norway), or Inflectra (Hospira, United States).

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A total of 126 patients on Remicade (50.4%) had detectable antibodies to the biologic, all of whom also tested positive on the assays that used Remsima and Inflectra. Median antibody levels were statistically similar and highly correlated across all three assays. Patients who tested positive for antibodies had undetectable serum levels of infliximab, while those testing negative had a median infliximab concentration of 1.7 mg/mL. The researchers uncovered no links between the presence of infliximab antibodies and the type of rheumatic disease, or the use of concomitant immunosuppressive therapies, such as methotrexate.

"Although additional epitopes may be present in the biosimilar, results suggest that epitopes influencing the immune response to [infliximab] are also present in the biosimilar," they wrote in a short report published online in Annals of the Rheumatic Diseases (2016 Mar 10. doi: 10.1136/annrheumdis-2015-208684).

Dr. Nagore and five coauthors are full-time employees of Progenika Biopharma, which makes the Remicade assay used in the study. He and his coinvestigators had no other relevant financial disclosures.