Anti-IL 17 Agents Exert Benefit in Psoriasis

Brodalumab and ixekizumab, monoclonal antibodies that disrupt-interleukin-17 signaling, benefit patients with moderate-to-severe psoriasis.

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April 4th, 2012 – Patients with psoriasis treated with monoclonal antibodies designed to disrupt interleukin-17 signaling responded favorably with reduction in psoriasis area and severity (PASI) score, new research findings indicate.

Dr. Craig Leonardi at the Saint Louis College of Medicine, Missouri and investigators led one study, while Dr. Kim A. Papp at Probity Medical Research led another. Both studies are published in the March 29th, 2012 issue of *The New England Journal of Medicine.*

Researchers were aware that IL-17 cytokines and receptors may be involved psoriasis pathogenesis. A previous IL-17 receptor antibody (brodalumab) study revealed anti-psoriatic efficacy 6 weeks after a single subcutaneous dose of 700 mg of brodalumab. A previous ixekizumab study revealed reductions in psoriasis area and severity.

There are six interleukin 17 ligands (IL17A to IL17F) and five receptors (IL17RA to IL17RE). Ixekizumab (LY2439821) binds the IL-17A ligand, while brodalumab (AMG 827) binds the IL-17A receptor.

One study by Papp and colleagues examined the outcome 12 weeks post-injection of brodalumab at several lower single doses administered 1, 2, 4, 6, 8, and 10 weeks.

A total of 198 patients were subjected to a randomized control brodalumab study. Patients were injected with 70, 140, or 280 mg of brodalumab on 1, 2, 4, 8, and 10 weeks prior to psoriasis measures analyzed by week 12.

Reductions in psoriasis area and severity were observed in 76% ($P<0.001$) of patients treated with 240mg, while 16% of placebo treated patients showed improvement in PASI score. Psoriasis was also reduced by 45% after injection of 40 mg of brodalumab.

The ixekizumab study examined lower doses applied to 142 patients with chronic to severe psoriasis. Over 75% efficacy was observed for 25 mg subcutaneous injection of ixekizumab. Improvements were observed within the first week and sustained for 20 weeks.

Both treatments were well tolerated. Brodalumab treatment resulted in one serious adverse event as asymptomatic neutropenia. IL-17 is known to be involved in neutrophil homeostasis. No serious adverse events were observed after ixekizumab treatment. The most common adverse event for observed in both studies was nasopharyngitis followed by upper respiratory infection.

Researchers state that further studies are needed to “establish the long-term safety and efficacy” for these two drugs, but that “brodalumab showed high efficacy in patients with moderate-to-severe plaque psoriasis with a rapid onset of action” and that “patients treated with ixekizumab had significant improvement in clinical measures.”

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