

New Targets Under Investigation for Wegener's

BY NANCY WALSH
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NEW YORK — Treatment of Wegener's granulomatosis continues to challenge and evolve, as researchers investigate the complex molecular cross-talk underlying immune dysfunction, looking for new ways to target therapy, and clinicians seek new ways to balance necessarily aggressive cytotoxic treatment against the potential for serious adverse events.

Standard induction treatment for severe vasculitis associated with the presence of antineutrophil cytoplasmic antibodies (ANCA) remains cyclophosphamide plus glucocorticoids—a regimen that is life-saving, Gary S. Hoffman, M.D., said at a rheumatology meeting sponsored by New York University.

But because of the high incidence of bladder cancer and other serious toxicities associated with long-term use of cyclophosphamide, once remission is achieved, maintenance therapy with methotrexate or azathioprine is now preferred, he said.

Wegener's carries a very high risk of morbidity and mortality, and 'although our conventional therapy has risks, it is lifesaving.'

Relapse remains problematic, however, and a subset of patients do not respond to the most cytotoxic cyclophosphamide-based regimen.

For these patients, a potential new approach has emerged: B-cell depletion with rituximab, said Dr. Hoffman, chair of the department of rheumatic and immunologic diseases at the Cleveland Clinic Foundation.

A group of 11 patients who had active, ANCA-positive vasculitis and either did not respond to cyclophosphamide or who had contraindications to its use were given infusions of rituximab (Rituxan) plus glucocorticoids on a compassionate use basis. Ten of the patients had Wegener's granulomatosis, and one had a related ANCA-associated vasculitis, microscopic polyangiitis.

Not only did all 11 achieve remission, but they also were able to discontinue steroids, which has not been possible before, said Dr. Hoffman, who was not involved in the study.

All patients had significant decreases in ANCA, which are thought to mediate the glomerulonephritis and small vessel vasculitis, and 8 of the 11 became ANCA negative.

B-cell depletion typically persists for months following rituximab treatment; all patients remained in remission while B cells were undetectable.

Reappearance of B cells occurred in nine patients, 4-12 months after infusion. Two patients experienced disease relapse following discontinuation of glucocorticoids but recovered after resuming the rituximab/glucocorticoid regimen. Three

others whose ANCA titers began to rise were retreated preemptively with rituximab alone and have remained in remission (*Arthritis Rheum.* 2005;52:262-8). The remaining four patients whose B cells repopulated did not revert to ANCA positivity.

Rituximab targets the CD20 receptor on the surface of B cells, and one rationale for using the drug in Wegener's granulomatosis is that it is able to deplete CD20-expressing precursors of ANCA-produc-

ing plasma cells (*Arthritis Rheum.* 2005;52:1-5).

A randomized, double-blind trial, Rituximab in ANCA-Associated Vasculitis (RAVE) is underway, with the goal of addressing the issue of whether targeted therapy, rather than broad-based immunosuppression, can provide enduring remission.

Many mediators other than B cells are involved in the inflammatory process of vasculitis, including dendritic cells,

macrophages, and various different cytokines that interact with one another.

A previous trial evaluated the tumor necrosis factor (TNF)- α blocking agent etanercept (Enbrel), because the evidence suggested that this cytokine plays a role.

But a randomized, placebo-controlled trial that included 174 patients from eight centers found no benefit in the addition of etanercept to standard therapy. Furthermore, six patients who were taking etanercept plus cyclophosphamide devel-

Seizing the moment of change



oped solid tumors (N. Engl. J. Med. 2005;352:351-61).

"We didn't see this with people who were on methotrexate plus etanercept, and it's a major concern," said Dr. Hoffman, who was coprincipal investigator for the trial.

"The new opportunities for selective targets certainly are seductive, and we hope they will work, but we cannot dismiss what we've learned from the history of this disease, which is that it carries a very high risk of morbidity and mortality, and that although our conventional therapy has risks, it is lifesaving," he said.

Before glucocorticoids began being used for Wegener's granulomatosis, survival was only 50% at 5 months, and most patients died within 2 years of diagnosis. Even with glucocorticoids, survival increased only slightly, to 50% at 1 year.

The addition of cyclophosphamide to the regimen, first reported by the National Institutes of Health in the early 1970s, increased survival to 80% at 8 years.

"But I think we still have a long road ahead of us. I hope the future looks great, but I view it with guarded optimism," Dr. Hoffman said. ■

No Increase in SLE-Related Antibodies Seen on Etanercept

BY COLIN NELSON
Contributing Writer

BOSTON — Patients with spondyloarthritis (SpA) who undergo therapy with the tumor necrosis factor- α inhibitor etanercept are at low risk of developing antibodies associated with systemic lupus erythematosus, according to a poster presentation at the annual meeting of the

Federation of Clinical Immunology Societies.

Although these potentially harmful antibodies seem to be increased in patients receiving infliximab, neither of the biologics induced lupus-like symptoms, one of the feared side effects of anti-TNF- α therapy.

Recent studies have shown promising results of anti-TNF- α therapy in patients with SpA. Many more have documented their efficacy in rheumatoid arthritis (RA). But enthusiasm for the new drugs has been muted by widespread concern over side effects that range from headache to infection and lymphoma.

In addition, numerous reports in the RA literature now show that infliximab induces antibodies associated with SLE. But the actual induction of clinically relevant lupus appears to be rare, and tracing its origin to drug-induced TNF- α blockade has been difficult to do.

In a previous study, Leen De Rycke, M.D., and colleagues from Ghent University Hospital, Belgium, reported for the first time that RA and SpA patients taking infliximab tended to produce high levels of the SLE antibodies, antinuclear antibodies (ANAs) and anti-double-stranded DNA (anti-dsDNA) antibodies (Arthritis Rheum. 2003;48:1015-23).

In their new study, they set out to see what happened to these patients over the long term, and whether etanercept therapy induces high antibody responses similar to those of infliximab.

Dr. De Rycke and associates followed 20 SpA patients for 1 year of treatment with etanercept. They compared the number of patients who developed newly induced autoantibodies in this cohort with those of 34 SpA patients who underwent infliximab therapy for 2 years.

On average, patients in the etanercept group were a decade younger (37 years of age) than those in the infliximab group (47 years). Autoimmunity at baseline was low. None of the patients was taking concomitant methotrexate. After 1 year, 10% of the SpA patients on etanercept had evidence of newly induced ANAs compared with 62% of the patients taking infliximab.

Similarly, newly induced anti-dsDNA antibodies were present in the sera of 10% of patients receiving etanercept, and in 71% of those receiving infliximab. Neither drug induced anti-ENA or antihistone antibodies.

Nor did any patients in either group develop lupus-like symptoms. Titers of IgM, but not IgG, anticardiolipin were selectively increased after infliximab but not etanercept therapy. The anti-dsDNA antibodies were predominantly of the immunoglobulin M (IgM) and immunoglobulin G (IgG) isotype. Lupus-associated anti-dsDNA antibodies are classically of the IgG isotype.

"This study indicates that the prominent ANA and anti-dsDNA autoantibody response is not a pure class effect of TNF- α blockers," Dr. De Rycke and colleagues concluded. Moreover, it "is not associated with clinically relevant lupus symptoms," they said. ■

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Would you look for a new, selective way to modulate immune response that offers a potential new option to treat RA?

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