



UK

## EULAR 2009

### Annual Congress of the European League Against Rheumatism

Copenhagen, Denmark, 10-13 June 2009



### **NEW TREATMENT STRATEGY OFFERS HOPE TO RHEUMATOID ARTHRITIS PATIENTS WHO HAVE FAILED TO RESPOND TO ALL OTHER THERAPIES**

**Copenhagen, Denmark, Thursday 11 June 2009:** Rheumatoid arthritis (RA) patients who failed to respond to initial treatment with rituximab (RTX) (a chimeric monoclonal antibody against the protein CD20) can still be successfully re-treated with a second course of RTX after six months, according to the results of a new study presented today at EULAR 2009, the Annual Congress of the European League Against Rheumatism in Copenhagen, Denmark.

In the study, 72% of RA patients who did not respond to initial treatment with RTX achieved improved disease activity scores (DAS28) and EULAR responses when re-treated with RTX after six months. In some cases the responses were dramatic, with patients achieving complete remission for a year or longer.

Although the exact cause of rheumatoid arthritis is not completely understood, it is believed to involve B cells (part of the immune system) that become abnormal and cause the immune system to attack the joints. Rituximab works by killing B cells, removing the cause of the inflammation. B cells are gradually replaced over the next 6 to 12 months by new cells from the bone marrow. Rituximab is effective in approximately two thirds to three quarters of patients treated, however in some patients it is ineffective. Under current licensing rituximab is generally used only when all other treatments (such as methotrexate or anti-TNF agents) have failed. This means that patients that fail to respond to rituximab usually have no other treatment available to them. Although new drugs are being developed for RA, this study demonstrates why rituximab treatment fails in some patients, and how it can be used more effectively to treat patients with the worst disease.

The study used a technique called highly sensitive flow cytometry that can accurately measure the very small numbers of B cells that remain in the system after treatment with rituximab. Initial

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studies with rituximab in RA seemed to show that all B cells were completely removed in all patients, even those that failed to show an improvement in symptoms and signs of arthritis after treatment. Highly sensitive flow cytometry shows that B cells are not always completely removed, and almost all patients that fail to improve after rituximab have incomplete B cell depletion. In addition, patients in whom B cell depletion is incomplete have higher numbers of certain B cells (preplasma and memory B cells) before treatment.

In the study, 104 patients (with complete data) were treated with rituximab and depletion assessed using highly sensitive flow cytometry. 90% of patients who did not respond clinically to treatment had incomplete B cell depletion. Non-response could also be predicted by higher baseline levels of memory B cells ( $p= 0.027$ ) and preplasma cells ( $p= 0.006$ ). 25 patients who had failed to respond to an initial treatment with rituximab were retreated six months later. At this stage B cells had not yet recovered to pre-treatment levels. Re-treating with a second course of rituximab resulted in greater B cell depletion, with 48% now achieving complete depletion ( $p = 0.02$ ). 72% of these patients then responded clinically, as defined by a moderate or better EULAR response. 32% had a good response and 16% were in remission. A significant improvement was observed in DAS28\* ( $p <0.001$ ) and all its components of DAS28.

Dr Edward Vital of Leeds Institute of Molecular Medicine, University of Leeds, UK, who led the study, said: “Although rituximab can be effective in RA, around a third of patients fail to achieve an adequate response the first time they are treated. Our study has shown that re-treating patients at a specific stage can enhance clinical responses to a level equal to those who fully respond to the RTX course at first administration. This provides hope for patients who are classified as non-responders and would normally have limited other treatment options. The next question is whether patients who have predictors of poor response could be treated more intensively from the outset, for example with a different dose of rituximab.”

*\* DAS28 (Disease Activity Score) is an index used by physicians to measure how active an individual's RA is. It assesses number of tender and swollen joints (out of a total of 28), the erythrocyte sedimentation rate (ESR, a blood marker of inflammation), and the patient's 'global assessment of global health'. A higher score indicates more active disease.*

**For further information on this study, or to request an interview with the study lead, please do not hesitate to contact the EULAR congress press office on:**

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**About EULAR**

- The European League Against Rheumatism (EULAR) is the organisation which represents the patient, health professional and scientific societies of rheumatology of all the European nations.
- In line with The European Union of Medical Specialists (UEMS), EULAR defines rheumatology as including rheumatic diseases of the connective tissue, locomotor and musculoskeletal systems.
- The aims of EULAR are to stimulate, promote, and support the research, prevention, treatment and rehabilitation of rheumatic diseases. To this end, EULAR fosters excellence in education and research in the field of rheumatology. It promotes the translation of research advances into daily care and fights for the recognition of the needs of people with rheumatic diseases.
- In 2009, The EULAR Executive Committee launched the EULAR Orphan Disease Programme (ODP) which aims to provide funding to research programmes focused on furthering understanding of the disease mechanisms behind systemic sclerosis. Please see [www.eular.org](http://www.eular.org) for further information.
- Diseases of the bone and joints such as rheumatoid arthritis and osteoarthritis cause disability in 4-5% of the adult population and are predicted to rise as people live longer.
- As new treatments emerge and cellular mechanisms are discovered, EULAR 2009 is set to be the biggest rheumatology event in Europe with over 13,500 scientists, physicians, allied health professionals, and related audiences in attendance from over 100 countries. Over the course of the congress, more than 300 oral and 1,700 poster abstract presentations will be featured, with 780 invited speaker lectures taking place in more than 150 sessions.
- To find out more about the activities of EULAR, visit: [www.eular.org](http://www.eular.org)