

University of Birmingham researchers in major new centre to tackle crippling condition of rheumatoid arthritis

Posted on Wednesday 26th June 2013

Leading medical research charity Arthritis Research UK and the University of Birmingham have announced a major new research centre that aims to find out more about the causes of rheumatoid arthritis.

The £2.5m Arthritis Research UK Rheumatoid Arthritis Pathogenesis Centre of Excellence, a collaboration between the Universities of Glasgow, Newcastle and Birmingham, aims to address the unmet needs of the 400,000 people who suffer from the crippling joint condition.

The three participating centres are committing an additional £4m in financial support over five years.

Rheumatoid arthritis is serious, inflammatory, auto-immune condition that affects the joints and the body's internal organs leading to chronic pain and fatigue. It occurs when the body's immune system attacks itself. Although drug treatments have considerably improved in the past 20 years they are not effective in all patients.

Researchers at the new three-site centre, led at the University of Birmingham by [Professor Chris Buckley \(/staff/profiles/iandi/buckley-christopher.aspx\)](#), Arthritis Research UK professor of rheumatology, will investigate the underlying causes of rheumatoid arthritis. They will focus on the mechanisms of auto-immunity that cause rheumatoid arthritis to start, and why it doesn't stop. This results in chronic inflammation in the joints which cannot be suppressed in at least a third of patients, despite treatment with modern biological therapies.

Although much of the research will be laboratory-based basic science, the ultimate aim of the centre will be to develop new therapies that will provide patients with specific treatment that will work best for them early in the course of their disease, without the need to try an array of different drugs.

The centre will be driven by collaborative partnerships by bringing together three world-class institutes with a track record of joint working, with each university bringing expertise in different fields and access to large groups of patients.

"We're really excited about the opportunities this new centre brings, and the consequent collaboration between basic scientists, clinicians and industrial partners who all want to make a difference," said Professor Buckley. "There is a massive unmet need for better treatments for rheumatoid arthritis; there is no cure, and many people are still suffering. We now have a fantastic chance of doing something about it."

Prof Alan Silman, medical director of Arthritis Research UK said: "Rheumatoid arthritis is a complicated disease particularly as it is a state where the body's control of the immune system is lost, resulting in long-term inflammation in the joints. There are several possible paths that researchers need to follow to fully understand the underlying nature of the problem and hence direct the development of new treatments. This initiative brings together under a single umbrella internationally renowned groups from three universities: Glasgow, Newcastle and Birmingham in a co-ordinated approach to solving this major form of arthritis in our population."

Notes to editors

The Universities of Glasgow, Newcastle and Birmingham have already established a track record in understanding the underlying causes of rheumatoid arthritis. All three universities are members of Arthritis Research UK Experimental Arthritis Treatment Centres network.

- At the University of Glasgow Professor Iain McInnes and his colleague specialise in understanding how immune cells move and behave during the course of rheumatoid arthritis. They use cutting-edge imaging techniques to make movie of these cells moving in the moving in the joints and blood stream of animal models of arthritis in order to understand how the behaviour and movement of cells is subverted during the disease.

- Researchers at Newcastle University, led by Professor John Isaacs, have focussed on the immune system in patients with rheumatoid arthritis and understanding the underlying causes of inflammation and autoimmunity.

- At the University of Birmingham Professor Chris Buckley leads a team that focus on the role of fibroblasts, a type of tissue resident cell that has been shown to play an important role in initiating and amplifying inflammation during rheumatoid arthritis. They specialise in laboratory based-experiments to shed light on the functions of these cells and how they cause inflammation to persist.

By bringing together these teams of experts the centre will synergise research that spans understanding the cells, physiology and human biology of the disease process of rheumatoid arthritis. The ultimate aim of this is to understand all of the different factors that cause the condition and furthermore, to understand why inflammation perpetuates resulting in chronic joint inflammation.

Arthritis Research UK

Arthritis Research UK is the leading authority on arthritis in the UK, conducting scientific and medical research into all types of arthritis and related musculoskeletal conditions. It is the UK's fourth largest medical research charity and the only charity solely committed to funding high quality research into the cause, treatment and cure of arthritis.

For more information, to speak to Professor Buckley or a patient with rheumatoid arthritis please contact [Kara Bradley \(mailto:k.j.bradley@bham.ac.uk\)](mailto:k.j.bradley@bham.ac.uk) in the University of Birmingham press office on 0121 414 5134