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Can Vitamin D help prevent arthritis? Birmingham scientists ask

Posted on Monday 24th May 2010

Scientists at the University of Birmingham are about to embark on the first stage of research which could see vitamin D used alongside, or even instead of, current treatments for rheumatoid arthritis.

Dr David Sansom and Dr Karim Raza at the Department of Immunology believe their work exploring how the popularly-used supplement affects the immune system - and in particular whether it can prevent rheumatoid arthritis developing - holds real promise for patients.

The Birmingham team is the first in the world to use vitamin D - found in oily fish, and through sunlight - as a way of altering the body's immune system in this way.

Rheumatoid arthritis is an inflammatory form of arthritis affecting around 380,000 people, mainly women, in the UK. It occurs when the body's immune system attacks itself, causing pain and swelling in the joints, and fatigue.

The Birmingham team, with funding of £222,000 over three years from Arthritis Research UK, now plans to perform laboratory studies to find out whether vitamin D can alter the aggressive immune response found in rheumatoid arthritis and turn it into a less harmful or even a protective one.

'We know that many people with arthritis have low levels of vitamin D and we have recently found that vitamin D can have powerful effects on the type of immune cells which may cause rheumatoid arthritis,' explained Dr Sansom. 'This study will help us understand a lot more about how this happens. This is the first stage in considering whether vitamin D could be used as a treatment alongside or instead of current treatments.'

Dr Sansom stressed that it may take between three and five years to develop the research sufficiently to permit clinical trials, and that it may be necessary to combine vitamin D with other drugs to get better effects.

However, as vitamin D was already in clinical use for other diseases, for example skin inflammation this should make it easier to transfer into treating arthritis.

The Birmingham team has found that the vitamin has a powerful effect on T-cells - white blood cells that play an important part in the development of rheumatoid arthritis. Their studies will aim to use vitamin D to re-programme T cells to behave in a less damaging way. 'Overall, vitamin D is the most powerful regulator of T cell responses I have seen in 20 years of working in this field,' said Dr Sansom.

'We believe the time is right to explore this in more detail to generate enough strong data to allow these ideas to be tested in arthritis models, and then in patients.'

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For further information

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