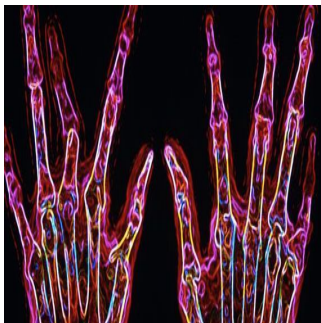

Large Scale DNA Study Offers Clues for Rheumatoid Arthritis



An international team of researchers has conducted the largest genetic study ever, and by involving almost 30,000 patients it was possible for them to identify in excess of 40 new areas in DNA that increase a person's risk of being affected by rheumatoid arthritis.

The scientists' work consisted of comparing the DNA of arthritis patients to those without the disease, enabling them to find 42 'faulty' areas that were linked with the disease. Publishing their findings in the *Journal Nature*, the authors believe new drugs could be developed to target these areas, compensate for these faults and one day provide a cure for the disease.

Professor Robert Plenge of Harvard Medical School and the project's lead researcher, found that one of these areas produced a weakness that was treated by an existing drug originally developed by trial and error, rather than specifically made to correct the genetic problem. He said that this finding shows how such discoveries could be used to design new drugs.

"What this offers in the future is an opportunity to use genetics to discover new medicines for complex diseases like rheumatoid arthritis to treat or even cure the disease," Plenge stated.

According to some researchers, identifying genetic weak areas for complex diseases (known as single nucleotide polymorphisms or SNPs) is not useful, as they claim there is little to no evidence that "silencing the SNPs" with drugs would relieve any symptoms.

Dr Plenge, however, believes this genetic approach is validated by the fact that he has found an established drug that treats the symptoms arising from a particular SNP for rheumatoid arthritis. He sees the potential in this approach as being beneficial in identifying drug targets for complex diseases, not only rheumatoid arthritis, but also diabetes, coronary heart disease and Alzheimer's.

Additionally, the study also discovered SNPs in the rheumatoid arthritis patients which occur as well in patients with types of blood cancer.

Professor Jane Worthington is director of the centre for genetics in Manchester. According to her, this observation suggests that drugs prescribed for the treatment of the cancer could be successfully used against rheumatoid arthritis and consequently, these should be fast tracked into clinical trials.

Speaking to BBC News, Worthington explained there already were therapies designed in the cancer field that could open up new opportunities for retargeting drugs, thus allowing for a direct way to increase therapies available for treating patients with rheumatoid arthritis.

Source and photo credit: [BBC News](#)

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