

Diabetes more frequent in children with chronic rheumatic disease

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The results of a study involving more than 9,000 patients, presented today at the European League Against Rheumatism Annual Congress (EULAR 2016) showed that Type 1 diabetes occurs significantly more frequently in patients with Juvenile Inflammatory Arthritis (JIA) than in the general population. A better understanding of this link between diabetes and JIA may lead to new preventative and therapeutic interventions in both these diseases.

JIA is the most common chronic rheumatic disease of childhood, affecting between 20 and 150 children per 100,000 at any one time. It is defined as chronic inflammation of the synovial joints, with unknown cause, which may start in children even as young as one year old, and persists for at least six weeks. JIA causes pain, swelling and stiffness of the joints, and sometimes rash and fever. Despite advances in treatment, JIA can cause many children to miss time off school and find it difficult to take part in physical activities.

In the past few years, important advances have been made in understanding the so-called 'susceptibility' genes, which contribute to different autoimmune diseases. It is becoming clear that, despite the apparent clinical differences between autoimmune diseases, they share a number of [genetic risk factors](#). Children and adolescents with JIA are therefore likely to develop other [autoimmune diseases](#).

"We know that there is a clear increase in the prevalence of Juvenile Inflammatory Arthritis in young people with Type 1 diabetes compared

with the general paediatric population," said Dr Kirsten Minden from the Rheumatism Research Centre, Berlin, Germany. "However, this study shows the reverse correlation that Type 1 diabetes occurs more commonly in [patients](#) with JIA. The next step is to explore in detail the factors and mechanisms that link the two diseases, and confirm that these findings are applicable to other geographic areas, where different environmental and genetic factors are at play. By better understanding this link, we may be able to develop new preventative and therapeutic interventions," Dr Minden concluded.

The study included 9,359 JIA patients with a mean age of 12 years and a mean disease duration of 4.5 years, recorded in the German national paediatric rheumatologic database (NPRD) in 2012 and 2013. Type 1 diabetes was diagnosed in 50 of these children, equivalent to a diabetes prevalence of 0.5%. Compared to an age and sex matched sample of the general population, the diabetes prevalence in JIA patients was significantly increased, with approximately double the prevalence ratio for diabetes in JIA patients compared to controls (1.92 for girls and 2.04 for boys).

More than half of the patients (58%) developed diabetes before JIA. The onset of diabetes was on average five years before the onset of JIA. Patients with JIA before Type 1 diabetes developed their diabetes on average nearly three years after the onset of JIA. The majority of these patients had not received any disease modifying anti-rheumatic drugs (DMARDs) before the onset of their diabetes. Patients with Type 1 diabetes did not differ significantly in the severity spectrum of their JIA compared to those without [diabetes](#).

Provided by European League Against Rheumatism

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