# Low birth weight and childhood infections predict ankylosing spondylitis

June 11 2015

The results of a study presented today at the European League Against Rheumatism Annual Congress (EULAR 2015) Press Conference showed that a diagnosis of ankylosing spondylitis (AS) can be predicted by low birth weight, having older siblings and hospitalisation for infection between the ages of 5-16 years. These data suggest that these factors play an important role in the pathogenesis of the disease.

AS is a painful and progressive form of arthritis caused by chronic inflammation of the joints in the spine. Prevalence of AS varies globally, and is estimated at 23.8 per 10,000 in Europe and 31.9 per 10,000 in North America.

The cause of AS is unknown. Although AS is strongly associated with the genotype HLA-B27, not everyone testing positive for the marker goes on to develop the disease.

"A link between AS and the HLA-B27 genotype was established more than three decades ago, yet studies on the environmental risk factors are few," said study investigator Dr. Ulf Lindström, Institute of Medicine, Rheumatology and Inflammation Research, Sahlgrenska Academy, Sweden. "Our research has identified three factors associated with significantly increased risk of the disease in later life. These data strengthen our understanding of the interplay between genetics and environment in AS, and bring us closer to pinpointing the underlying cause of the disease."

Statistically significant increased risks were observed for birth weight under 3,000g (18% vs. 15%), having older siblings (63% vs. 58%) and for hospitalisation due to infections at age 5-12 (5% vs. 3%) and age 13-16 (2% vs. 1%). These factors have been implicated in other, associated disease; the triggering effect of infections in reactive arthritis has been established, birth weight has been shown to predict development of autoimmune disease (diabetes and rheumatoid arthritis), and a link between older siblings and disease risk has been demonstrated in asthma.

Data from several Swedish national registers were used for this study, with five matched controls (sex, age, county) identified for each case of AS. Exposures assessed were birth weight, gestational age, type of birth (single/multiple), number of older siblings and exposure to infections.

**More information:** Abstract Number: OP0275

Provided by European League Against Rheumatism