Early Arthritis: Translation from Experiences with RA to Children with JIA

Professor Paul Emery

therapy.

When should primary care physicians refer patients with suspected juvenile idiopathic arthritis (JIA) and what tests should they perform? According to Professor Paul Emery, University of Leeds, Leeds, UK, arthritis patients do better with early intervention by a rheumatologist, so primary care physicians should refer immediately and not waste time with tests.

Many patients with JIA develop articular damage and enter adulthood with active disease. Improvements in the ability to predict outcomes early in the disease would allow clinicians to tailor treatment to reduce potential disabilities. Although most children can be categorized in one of the JIA subsets, this alone is not sufficient to allow reliable prediction of outcome because evolution differs greatly among patients belonging to the same onset type. Progress is being made in understanding these differences and several factors have been identified as being predictors of poor outcome including: greater severity/extension of arthritis at onset, symmetric disease, precocious hip/wrist involvement, presence of rheumatoid factor (RF), prolonged active disease, and early radiographic changes.

Results of two studies on risk factors were presented at EULAR. The first study, presented by Dr. Berit Flatø, Rikshopitalet, Oslo, Norway, compared outcomes in patients with juvenile enthesitis related arthritis (ERA) and psoriatic arthritis (PsA) with other subtypes of JIA and healthy controls to determine genetic markers, patient characteristics, and early disease variables that might predict remission, axial involvement, and physical limitations. A total of 258 patients were studied: 86 with juvenile spondylarthropathy (SpA) (ERA 55; JPsA 31); 86 with oligo- or polyarticular JIA; and 86 gender and age matched healthy controls.

Health status was assessed after a median of 15.0 and 23.0 years of disease duration. In this retrospective study patients with juvenile SpA had poorer physical outcomes than patients with oligo- or polyarticular JIA and healthy controls. Gender (male for reduced spinal flexion and female for poor physical health), late disease onset, family history of related diseases, the presence of the alleles for DRB1*08, absence of DPB1*02, persistently elevated erythrocyte

sedimentation rate (ESR), and early hip or ankle involvement were predictors of poor outcome.

A second study conducted by Dr. Rotraud Saurenmann and colleagues at the Hospital for Sick Children in Toronto, Canada, also used a retrospective cohort design to study the impact of ethnicity on patients with JIA. Ethnicity questionnaires were distributed to 1081 patients diagnosed with JIA. The distribution of ethnicities among patients with JIA was compared with the distribution of ethnicities in the population of the Greater Toronto Area.

More than 75% of the patients (818/1081) answered the questionnaire. In this study, European descent was significantly associated with a higher risk for developing JIA (74.5% of JIA patients but only 57.3% of the general population). Black, Asian, and Indian subcontinent descent made up a significantly lower than expected percentage of JIA patients. The difference between groups was significant (p=0.005). The distribution of JIA subgroups differed significantly (p= 0.0008) across the ethnicities with a higher percentage of enthesitis related JIA and polyarticular rheumatoid factor positive JIA in non-European patients and a significantly higher proportion of extended oligoarticular JIA in patients of European descent.

Identification of possible genetic and immunologic factors associated with poor outcome, better standardization among studies, and improvement in radiographic scoring are all factors that could contribute to a better identification of early predictors of poor outcome in JIA.