Diagnosing Arthritis in Children: JIA

By Lori Tucker, MD

A recent Ipsos-Reid poll issued by The Arthritis Society confirmed that only 19% of Canadians are aware that arthritis can present in children. As demonstrated by these results, it is no wonder it remains difficult to change the general opinion that arthritis in children is not a serious disease or that children will grow out of their arthritis.

Children and Arthritis

Juvenile idiopathic arthritis (JIA) is the most common rheumatic disease of childhood, and is one of the most common chronic disabling diseases in children and adolescents. To ensure the best outcome for children with JIA, early disease recognition and diagnosis is critically important since we know that, similar to rheumatoid arthritis (RA), disease damage begins in the disease’s early stages.

The diagnostic nomenclature of chronic arthritis in childhood is now based on an accepted international classification: JIA. Of note, children under the age of 16 years presenting with chronic arthritis should most appropriately be given the diagnosis of JIA. There are eight categories of JIA, which are differentiated based on their clinical presentation within the first six months of disease, listed below:

- systemic;
- oligoarthritis persistent;
- oligoarthritis extended;
- polyarthritis rheumatoid factor (RF) negative;
- polyarthritis RF positive;
- enthesitis-related arthritis (ERA);
- psoriatic arthritis (PsA); and
- other/unclassified.

Each category has distinct clinical presentations, immunogenetic associations and outcomes. Proper diagnostic classification is very helpful in discussing the potential disease course with children and parents, and when deciding on an appropriate treatment.
Treatment Options and Follow-up
The treatment options for JIA have changed in the past 10 years due to the recognition that earlier aggressive treatment improves arthritis patients’ outcomes. However, the multidisciplinary approach to the treatment of a child with arthritis and their family remains of critical importance. For the patient described in the case presented, recognition and treatment of her school function issues, as well as adolescent and parent issues were as important as providing a prescription.

Although Jane had been diagnosed with arthritis, she and her family did not know what the diagnosis meant and did not receive information about juvenile arthritis. In a pediatric rheumatology clinic, the pediatric rheumatology nurse plays a very important role educating the family, providing reading material about JIA and treatments, as well as additional reliable website resources. The nurse also works with the patient and their parents over time when discussing adolescent development issues related to the disease and its treatment.

In addition to assessment and exercise prescription, the pediatric rheumatology physiotherapist and occupational therapist will often communicate directly with the school teachers and counselor so that problematic issues, such as the number of stairs a child with arthritis must climb in the school or providing extra time for test completion, can be dealt with quickly and efficiently.

Children and teenagers with arthritis involving their feet and ankles require special attention to footwear and proper orthotics. For teenagers, the goal of being able to fully participate in sports and physical education is often more appealing than a daily home exercise plan. It is also important to include the local family doctor as a member of the multidisciplinary team, with appropriate communication about diagnosis and treatment plans so that they may participate as needed in their patient’s ongoing general healthcare.

Early institution of a disease-modifying anti-rheumatic drug (DMARD) has become routine in pediatric rheumatology clinics, with many patients receiving a DMARD at time of diagnosis or within the first few months if they do not respond quickly to non-steroidal anti-inflammatory drugs (NSAIDs). The most common DMARD used in children with JIA is methotrexate, with approximately 70% of children demonstrating favorable response in clinical trials and clinic settings. However, children with systemic onset JIA may have less frequent response to methotrexate, and newer research supports early institution of anti-IL1 therapy in some of these patients. Furthermore, some children with ERA may have a better response to sulfasalazine as a first DMARD choice. Older DMARDs, such as hydroxychloroquine or gold, are rarely used in the pediatric rheumatology clinic in the treatment of JIA, as previous studies did not demonstrate efficacy greater than placebo. Biologic treatments are used for children with JIA who have persistent active disease despite an optimal trial of treatment of methotrexate, but restricted availability to biologics is often a factor in their use.

Conclusions
Outcomes for children and adolescents with JIA have improved with early aggressive treatment. The Canadian JIA research project, Research on Arthritis in Canadian Children Emphasizing Outcomes (ReACCh-Out) has shown that in a large inception cohort of children with JIA (354 patients), 33% of patients had inactive disease six months after diagnosis. JIA subtype is an important predictor of persistent active disease, and children with polyarticular RF negative disease were more likely to have ongoing disease activity. Long-term follow-up of this cohort will provide information about outcomes of children with JIA receiving current treatments.

Further readings:

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