What Parents Should Know About RA in Children

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Juvenile Rheumatoid Arthritis

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Arthritis in children is called juvenile arthritis or childhood arthritis. The most common type of childhood arthritis is juvenile rheumatoid arthritis (JRA), also called juvenile idiopathic arthritis (JIA).

Juvenile arthritis may cause permanent joint damage and make it hard for children to do everyday things like running, walking, playing or getting dressed. It can also cause disability.

While there is no cure for JRA, some children will achieve permanent remission when they are older. Remission means the disease is no longer active, but any joint damage is permanent.

Unfortunately, some children will continue to have symptoms into adulthood. It is important to note that while JIA was previously known as JRA, it is a not a childhood version of adult rheumatoid arthritis (RA).

Prevalence

JRA may appear in children as young as 6 months old to as old as 16 years old.

According to the Genetics Home Reference of the U.S. National Library of Medicine, it is estimated that JRA affects 4 to 16 of 10,000 children in North America and Europe. In the United States, one in 1,000 children are affected.

The most common type of JRA is oligoarticular JRA (or pauciarticular JRA), which is at least half of the cases. While oligoarticular JRA affects more girls than it does boys, boys are more affected by enthesitis-related JRA than their counterpart.

What Causes Juvenile Rheumatoid Arthritis?

A malfunctioning immune system may be to blame for the development of JRA in children. The immune system's overaction causes inflammation, which eventually leads to joint damage.

Researchers think children may have a genetic predisposition to JRA, that is they have certain genetic markers that potentially could trigger it. Triggers can include viruses or bacteria but having genetic markers does not mean a child will develop the disease.

There is no way to prevent the development of JRA, as researchers have not been able to confirm an exact cause of juvenile rheumatoid arthritis.

Juvenile Rheumatoid Arthritis Symptoms in Children

Fever is one of the earliest signs of JRA. These types of fevers tend to appear and disappear quickly and are worse at night.

Joint pain, swelling, and stiffness are common and worse in the morning and after periods of activity.

In addition, children may experience the following additional symptoms:

- Eye inflammation
- Rashes
- Reduced physical activity
- Swollen lymph nodes
- Loss of appetite
- Increased levels of fatigue

Children with JRA will experience periods of flare-ups, where the disease is active and periods of remission, where symptoms are reduced, and/or the disease is inactive.

Differences Between Juvenile RA and Adult RA

Much like adult RA, JRA causes painful inflammation throughout the body. However, these two conditions are very different.

One main difference is that JRA is a group of chronic arthritis disorders, while RA is one single disease. Moreover, JRA affects a child's bone development and growth whereas RA doesn't affect growth because it affects adults.

JRA also gets better with age, while RA causes lifetime symptoms that may get worse with time. Moreover, JRA treatment is often successful causing long periods of remission and lower incidences of disability.

Last, most people with RA may have a rheumatoid factor (RF), an antibody that causes the immune system to malfunction. Very few children with JRA have a positive RF, and a positive RF in a child with JRA indicates an increased risk for symptoms continuing into adulthood, or a higher risk for developing RA as an adult.

Treatment for JRA and RA is similar and includes disease-modifying antirheumatic drugs (DMARDs) and anti-TNF (tumor necrosis factor) medications. Physical therapy is another treatment to help joints feel and function better.

How Is Juvenile Rheumatoid Arthritis Diagnosed?

A diagnosis of JRA can be made in a child who showed symptoms before age 16. Children as young as two years old can be diagnosed with JRA.

It can be hard to make a JRA diagnosis because children do not complain of pain. And the younger they are, the harder it is to explain symptoms or know what is normal and what isn't, and JRA may go undetected for quite some time.

JRA can be diagnosed with a combination of:

- An assessment of symptoms
- A physical exam
- Bloodwork
- Imaging studies
- Analysis of medical family history

Generally, a child must exhibit joint pain and swelling in order for a doctor to confirm a diagnosis because having certain markers in blood doesn't necessarily mean a child has JRA.

Classifications of Juvenile Rheumatoid Arthritis

JRA is divided into three classifications. These classifications help to describe how the disease progresses. The three types are based on the following criteria:

- Total number of joints affected
- Signs and symptoms
- Presence of certain antibodies in the blood

1. Pauciarticular JRA

Typically involving larger joints (i.e., knees), this is the most common type of JRA with up to four joints being affected. Approximately 50 percent of children who have juvenile arthritis develop this type, with young girls under the age of 8 the most likely group to get it. Some pauciarticular JRA patients have what are referred to as antinuclear antibodies (i.e., abnormal proteins) in their blood.

Diseases of the eye affect between 20% and 30% of pauciarticular JRA patients. Regular preventative examinations by an eye doctor are needed to treat more serious eye conditions such as uveitis (i.e., inner eye inflammation) or iritis (i.e., iris inflammation).

Many children with this type of juvenile arthritis outgrow the condition by the time they reach adulthood. However, eye problems may persist and joint symptoms can also reoccur later in life.

2. Polyarticular JRA

In the case of polyarticular JRA, approximately 30% of child patients are affected with at least five smaller joints (i.e., feet and hands) commonly involved. However, it can affect larger joints as well.

Frequently, polyarticular juvenile arthritis is symmetrical. In other words, it involves exactly the same joints on both sides of a child's body. Some polyarticular disease patients have what is known as rheumatoid factor (i.e., a specialized type of antibody) in their bloodstream. This can be a more severe form of JRA. It is considered similar to the adult form of rheumatoid arthritis.

3. Systemic JRA

Sometimes referred to as Still's disease, this type of juvenile rheumatoid arthritis can affect 20% of children with the condition. Their blood tests negative for both antinuclear antibodies and rheumatoid factor. Systemic JRA is characterized by the following:

- Joint swelling
- Fever
- Light pink rash
- Possible internal organ (e.g. liver, heart, spleen and/or lymph node) involvement. A small percentage of these juvenile patients go on to develop severe arthritis within several joints that can continue into adulthood.

What Are the Complications of Juvenile Rheumatoid Arthritis?

JRA can lead to serious complications if not managed and treated appropriately.

Children with JRA may be at risk for developing eye diseases, including iritis, which causes inflammation in the iris, the colored part of the eye. Regular eye exams can check for problems before things to get worse.

JRA can also affect bone development and a child's growth. Further, children with JRA also have an increased risk for osteoarthritis (wear and tear arthritis) due to JRA's effects, medications used to treat JRA, an increased risk for injury and because of reduced physical activity.

Helping Your Child With Juvenile Rheumatoid Arthritis

The impact that JRA will have on your child's life will be different than it would be for another child.Some children may have several flare-ups a year while others may experience long periods of remission.

Your child should have regular visits with a pediatric rheumatologist or other doctors who specialize in rheumatic diseases. Controlling inflammation is important in preventing joint damage and complications.

Low impact physical activity, including low impact sports, such as swimming and physical therapy can help manage JRA pain. You should also track your child's symptoms and flare-ups, and the effects of medication.

Mental health professionals are a good resource for helping your child and family cope with stress associated with JRA and managing with the emotional effects of the disease. Family support groups for families who have a child with JRA are another good resource.

Living with JRA isn't going to be easy for you or for your child, but proper treatment can help your child have a normal, full and active life.