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Juvenile Idiopathic Arthritis attacks Joints

 I chose to write about Juvenile Idiopathic Arthritis because one of the most impressionable patients I have had has been a little girl who has JIA (Juvenile Idiopathic Arthritis). I can remember the pain in her eyes and how scared she was. The weekly flights to give her the injections she needs to help manage the pain. How she would rather suffer daily than endure the burning of the injections. I have watched as she had grown into a beautiful teenager and how she enjoys life to the fullest, because she knows what it’s like to suffer daily and not be able to do the things she loves. So, what is juvenile idiopathic arthritis?

 Juvenile Idiopathic Arthritis is characterized by inflammation of the joints that cause pain, swelling, stiffness and loss of motion. The word "arthritis" means inflammation in the joints. Juvenile idiopathic arthritis is the most common rheumatic disease in childhood, occurring in approximately 1:500 children. (Boros C) JIA is split into 7 subtypes. They are as follows: oligoarticular JIA, seropositive polyarticular JIA, seronegative polyarticular JIA, systemic-onset JIA, enthesitis-related arthritis (ERA), juvenile psoriatic arthritis and undifferentiated JIA. Oligoarticular JIA is the most common JIA subtype and is generally seen among female patients younger than six. (Barut K) I will be focusing on this subtype.

 OligoJIA is defined as a chronic inflammatory arthritis of unknown origin that begins before the age of 16 years and persists for longer than 6 weeks. (Raab) Oligoarticular JIA is an autoimmune illness. This means that the body's immune system, which normally attacks germs, wrongly attacks the joints. This causes swelling and irritation (inflammation) in the joints. This condition usually starts when a child is 2–3 years old. Oligoarticular JIA predominantly involves lower-extremity joints, such as the knee and ankle joint. The hip joint is rarely affected. Small-joint involvement is pretty rare in this entity. (Barut K) Since oligoarticular JIA is a systemic disease, it affects the normal development of the child. It will affect the child’s growth, mass, and proportions of the body.

I know that JIA is technically an immune disorder. I want to focus on the area in the body that JAI affects and how it affects it. In Chapter 9 we learn about joints. In oligoarticular JIA inflammation happens in the lining of the joints. This lining is called synovial membrane. We learned that synovial joints allow for free movement between bones and are the most common joints in the body. We also learned the cells of the membrane secrete synovial fluid, a thick, slimy fluid that provides lubrication to further reduce friction between the bones of the joints. The synovial fluid also provides nourishment to the articular cartilage. When the synovial membrane gets inflamed, it makes more fluid, so the joint gets swollen, and the synovial membrane becomes thicker. The swelling can be painful and causes stiffness and can make the joint hard to move.

JIA affect a child’s daily freedoms. “Participation in leisure activities is of critical importance in childhood and adolescence to maintain a fit lifestyle, develop friendships, engage in focus-oriented activities, as well as acquire cognitive and social skills important for development. If participation in leisure activities remains limited on a long-term basis, children and adolescents may not have enough social contacts with peers, may be less able to make friends, experience greater social isolation, and may be at greater risk for depression.” (Cavallo S)

I cannot imagine being a child who must live with this swelling and pain daily. I cannot imagine what kind of affect this has on a child’s mental and physical life. I hope this essay has enlightened you on JIA as much as it has me. Please refer to my drawing of a normal synovial joint compared to a child synovial joint who has JIA.

References

Barut K, Adrovic A, Şahin S, Kasapçopur Ö. Juvenile Idiopathic Arthritis. Balkan Med J. 2017;34(2):90-101. doi:10.4274/balkanmedj.2017.0111

Boros C, Whitehead B. Juvenile idiopathic arthritis. Aust Fam Physician. 2010;39(9):630-636.

Cavallo S, April KT, Grandpierre V, Majnemer A, Feldman DE. Leisure in children and adolescents with juvenile idiopathic arthritis: a systematic review. PLoS One. 2014;9(10):e104642. Published 2014 Oct 20. doi:10.1371/journal.pone.0104642

Raab A, Kallinich T, Huscher D, et al. Outcome of children with oligoarticular juvenile idiopathic arthritis compared to polyarthritis on methotrexate- data of the German BIKER registry. Pediatr Rheumatol Online J. 2021;19(1):41. Published 2021 Mar 22. doi:10.1186/s12969-021-00522-4