

Over view on Septic Arthritis

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Description

Septic arthritis is the inflammation of a joint due to a bacterial or fungal infection. The condition occurs when a penetrating injury, such as a puncture wound, occurs near or above a joint, allowing bacteria to directly enter the joint. Bacteria can also spread through the bloodstream to a joint from a recent infection or after surgery.

It often affects the joints near long bones in the legs and arms. These include the hip, knee, and ankle joints and the shoulder, elbow, and wrist joints. The infection can also occur in the spine, pelvis, and heels.

Infants and older adults are most vulnerable to septic arthritis due to their anatomy and blood supply to the joints. The knee and hip are the most affected joints in adults, whereas the hip is the most common site of infection in infants.

Acute septic arthritis, infectious arthritis, suppurative arthritis, osteomyelitis, or joint infection is the invasion of a joint by an infectious agent resulting in joint inflammation. Symptoms typically include redness, heat and pain in a single joint associated with a decreased ability to move the joint. Onset is usually rapid. Other symptoms may include fever, weakness, and headache. Occasionally, more than one joint may be involved especially in neonates and younger children. In neonates, infants i.e., during the first year of life and toddlers, the signs and symptoms of septic arthritis can be deceptive and mimic other infectious and non-infectious disorders.

In children septic arthritis is usually caused by non-specific bacterial infection and commonly hematogenous, i.e., spread through the bloodstream. Septic arthritis and/or acute hematogenous osteomyelitis usually occurs in children with no co-occurring health problems. Other routes of infection include direct trauma and spread from a nearby access. Other less common cause includes specific bacteria as mycobacterium tuberculosis, viruses, fungi, and parasites. In children However, there are certain groups that are specifically vulnerable to such infections namely preterm infants, neonates in general, children and adolescence with hematologic disorders, renal osteodystrophy and immune-compromised status. In adult's vulnerable groups include an artificial joint, prior arthritis, diabetes, and poor immune function. Diagnosis is generally based on accurate correlation between history-taking and clinical examination findings and basic laboratory and imaging findings like joint ultrasound.

In children septic arthritis can have serious consequences if not treated appropriately and timely. Initial treatment typically includes

antibiotics such as vancomycin, ceftriaxone, or ceftazidime. Surgery in the form of joint drainage is the gold standard management in large joints like the hip and shoulder. Without early treatment, long-term joint problems may occur, such as irreversible joint destruction and dislocation.

In children septic arthritis usually affects the larger joints like the hips, knees, and shoulders. The early signs and symptoms of septic arthritis in children and adolescence can be nonspecific and may be confused with childhood limb trauma. A child with septic arthritis may suffer from a painful limb which gradually worsens until the child is unable to weight bear. This is usually associated with marked local tenderness over the affected joint line and greatly decreased range of motion on the joint. Local swelling and redness are known signs but are usually difficult to detect in deep joints like the hip. Kocher criteria have been suggested to predict the diagnosis of septic arthritis in children. Clinical examination of neonates and infants with septic arthritis is particularly difficult because there are usually few or no objective signs to rely upon. History taking is not fully reliable and fever is not a constant sign in such an age group. Acute phase reactants like ESR and CRP may be unreliable in such an age group. Importantly, observation of active limb motion or kicking in the lower limb can provide valuable clues to septic arthritis of hip or knee. In neonates/new born and infants the hip joint is characteristically held in abduction flexion and external rotation. This position helps the infant accommodate maximum amount of septic joint fluid with least tension possible. The tendency to have multiple joint involvement in septic arthritis of neonates and young children should be closely considered.

In adults, septic arthritis most commonly causes pain, swelling and warmth at the affected joint. Therefore, those affected by septic arthritis will often refuse to use the extremity and prefer to hold the joint rigidly. Fever is also a symptom; however, it is less likely in older people. In adults the most common joint affected is the knee. Hip, shoulder, wrist, and elbow joints are less commonly affected. Spine, sternoclavicular and sacroiliac joints can also be involved. The most common cause of arthritis in these joints is intravenous drug use. Usually, only one joint is affected. More than one joint can be involved if bacteria are spread through the bloodstream.

Septic arthritis can quickly cause severe damage to the cartilage and bone within a joint. Prompt treatment is critical for preventing permanent joint damage.