REITER’S DISEASE

By Elaine Moore

Reiter's disease, a form of reactive arthritis, is an autoimmune disorder that is often associated with genital or enteric infections.

What is Reiter’s disease?

Reiter’s disease is an autoimmune rheumatological disorder that usually occurs following infection of the genitals or gastric mucosa (stomach lining). Reiter’s disease usually causes an acute arthritic syndrome that spontaneously resolves within 2-12 months, although symptoms may recur and lead to chronic disease.

Reiter’s disease is named after the physician Hans Reiter who first reported the condition in 1918 in a young Prussian soldier. Reiter’s diseases primarily affects young men, and affected individuals often have the HLA B27 marker seen in the autoimmune condition ankylosing spondylitis.

Environmental Triggers

The presence of HLA B27 in Reiter’s disease suggests that patients with Reiter’s disease are genetically predisposed to its development after exposure to certain infectious organisms, including those causing urogenital (affecting the urinary or genital tract) and enteric (involving the stomach or gastrointestinal tract) infections, such as Chlamydia trachomatis, Shigella flexneri, Yersinia enterocolitica, Ureaplasma, Campylobacter species, Salmonella and possibly Neisseria gonorrhoeae, which causes gonorrhea. Chlamydia infection is seen in about 50 percent of patients, and their Chlamydia antibody titers (evidence of current or past infection) are much higher than those seen in patients with Chlamydia who do not develop Reiter’s disease.

Reiter’s disease can also occur after encounters with new sexual partners or after gastrointestinal illnesses or it can emerge without any obvious infectious cause. Patients with a past history of Salmonella infection (food poisoning), particularly those who have mild initial cases, may develop Reiter’s disease years later, particularly if they’re re-exposed to the offending organism. While most cases occur in men, about 5-10 percent of all cases occur in women, and women are less likely to have arthritic symptoms. Most cases involve adults in the fourth decade of life, although rarely, Reiter’s disease can occur children with infectious diarrhea. Partners of patients with Reiter’s disease have a high prevalence of musculoskeletal disorders and tubal infections (salpingitis). Eighty to ninety percent of reported cases occur in whites, and the remaining cases have occurred in African-American.

Symptoms
Symptoms usually appear 1-4 weeks after the initial infection. Reiter’s disease causes an inflammatory syndrome characterized by three separate conditions: 1) urethritis (inflammation of the urethra), prostate gland inflammation (prostatitis) or lower urogenital tract infection, which can cause burning pain on urination and an increased need to urinate; 2) conjunctivitis (inflammation of the eye’s inner rim) and uveitis, causing redness of the eyes, eye pain and irritation and blurred vision with symptoms that wax and wane; and 3) reactive arthritis.

In addition, skin lesions develop in 15 to 36 percent of patients and often occur on the penis causing a condition of balantitis. A skin condition of keratoderma blennorrhagicum can also occur and begins as a dull red papule or raised sore that quickly forms a crusty yellow surface. These lesions often cluster together, forming scaly plaques and pustules. Keratoderma blennorrhagicum frequently affects the soles of the feet, the skin on the top of the feet, legs, hands, fingers, nails, and scalp. On the penis, these lesions, which are usually red and moist, also form hard crusts and plaques or small painless bumps that rise from superficial lesions. Genital lesions are more likely to occur in sexually acquired Reiter’s syndrome and in reactive arthritis infection associated with the enteric organism Shigella. Eye inflammation occurs in up to half of these patients. Iritis (iris inflammation) or extensive uveitis may develop in up to 10 percent of patients although these are not usually early symptoms.

Lesions affecting the mucous membranes may occur before or after the onset of the other systemic symptoms. 90 percent of patients, including children, with histories of enteric infection develop urethritis. Urogenital inflammation should not be considered as necessarily being sexually acquired when reactive arthritis develops after a bout of infectious diarrhea. Other common symptoms include fever, weight loss, malaise, fatigue and loss of appetite. Cardiac complications, peripheral neuropathy, and encephalitis can also occur but they are rarely seen.

**Arthritic Component**

In some populations Reiter’s syndrome is responsible for most cases of arthritis not related to trauma in sexually active young men. Reiter’s is often confused with gonococcal arthritis, an arthritic condition of septic arthritis involving one or more joints associated with gonorrhea. Reiter’s disease can cause a wide range of joint disorders, including an asymmetric (affecting one side) polyarticular (affecting multiple joints) synovitis and tendonitis (inflammation of joints and tendons) that initially, especially affects the distal weight-bearing joints of the knees, ankles and feet.

Knee effusions and fusiform changes causing the digits to appear sausage-shaped (similar to the changes seen in psoriasis-associated arthritis) are common. The lower back can also be affected, causing a condition of sacroilitis. Tendon-insertion sites (entheses) such as the Achilles tendon and the soles of the feet are frequently inflamed, which accounts for the classification of Reiter’s syndrome as a rheumatological disease. When the cartilage around the breastbone also becomes inflamed, the condition is called costochondritis. While most patients have an acute syndrome, some patients have
repeated recurring attacks over many years, and chronic arthritis or sacroiliitis occurs in 15-30 percent of cases. Up to 40 percent of patients with Reiter’s disease develop chronic and disabling arthritis, impaired vision, kidney disease, or heart disease.

**Diagnosis and Treatment**

There is no one specific test used to diagnose Reiter’s since the associated infectious agent varies. Patients typically have elevated erythrocyte sedimentation rates (ESR, sed rate), usually higher than 50 mm/hr although the degree of elevation doesn’t correlate with the severity of symptoms; elevated white blood cell counts, usually up to 20,000 WBCs/cu mm; and mild anemia along with polyarthritis (affecting multiple joints). Although they are rare, some patients may have antinuclear antibodies, rheumatoid factor, C-reactive protein and circulating immune complexes. Synovial fluid withdrawn from inflamed joints shows elevated white blood cells counts, with more than 90 percent neutrophils, elevated protein and decreased viscosity. Evidence of infection is found with genital, stool, synovial fluid and throat cultures. Past infection is determined by tests for specific antibodies, for instance, those found in Chlamydia infection.

Symptoms are treated with anti-inflammatory agents although treatment with methotrexate is not recommended since it may worsen the disease course in patients with associated HIV infection. Treatment of the primary infection is essential, and tetracycline is the agent most often used when Chlamydia infection is diagnosed or suspected.

Note: Because of Dr. Reiter’s work in concentration camps and because the use of doctor’s names to designate diseases is being phased out, Reiter’s disease is also known as reactive arthritis, arthritis urethritisca, venereal arthritis, seronegative spondyloarthropathy and polyarteritis enterica. Since Reiter’s disease frequently affects the spine, it is also referred to as a spondyloarthropathy.

**Resource:**