Reactive Arthritis

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KEYWORDS

• Reactive arthritis • Inflammatory arthritis • Spondyloarthropathy • Chlamydia • Salmonella • Shigella • Yersinia • Campylobacter

KEY POINTS

- Reactive arthritis is categorized as a spondyloarthropathy. Pathogenesis involves a gastrointestinal or genitourinary infectious trigger in the susceptible host.
- Clinical presentation is of a monoarthritis or oligoarthritis, usually of the lower extremities. Other musculoskeletal manifestations include enthesitis and dactylitis.
- Antibiotic therapy provides benefit in the setting of chlamydial infection; the role of antibiotics for enteric pathogens is less clear.
- Anti-inflammatory treatment is initiated with nonsteroidal antiinflammatory drugs. Refractory disease is treated with nonbiological disease-modifying agents. The role of tumor necrosis factor alpha inhibitors is evolving.
- Many patients experience a clinical course measured in a few months, but some go on to more severe and chronic courses.

INTRODUCTION

Reactive arthritis is typically defined as an inflammatory arthritis not directly caused by culture-proven infection of joint tissue, but rather after infection at another site. Historically, the term "Reiter's syndrome" was often used as synonymous. Over time, it has become recognized that Reiter's syndrome is a subset of reactive arthritis. In addition, there is some controversy surrounding the use of the term Reiter's syndrome, in light of the role of its namesake in Nazi medical experimentation.[1] The disease is now commonly included in the category of spondyloarthropathies, accounting for less than 2% of the overall disease burden in this category in 1 study.[2] Patients often present to primary care physicians, and multidisciplinary care including rheumatology and infectious diseases specialists is frequently required.

Clinical Criteria

There are no agreed upon, validated diagnostic criteria for reactive arthritis.[3] Proposed definitions[4] have included a combination of microbiological and clinical criteria (**Box 1**). Reiter's syndrome was classically defined as the triad of arthritis, urethritis,

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Box 1
Criteria for reactive arthritis

1. Arthritis after microbiologically confirmed enteric or genitourinary infection after a period of days to weeks, with clinical or laboratory evidence of infection.
2. Asymmetric monoarthritis or oligoarthritis usually of the lower extremities.
3. No other cause for arthritis such as septic arthritis or crystalline arthropathy.

and conjunctivitis. In 1 study, an episode of arthritis of more than 1 month's duration, combined with urethritis and/or cervicitis, had an 84% sensitivity and 98% specificity for this syndrome.[5]

Acute reactive arthritis typically lasts 6 months or less in one-half of patients and symptoms resolve for most in 1 year. Patients with symptoms that exceed this duration are said to have chronic reactive arthritis.

MICROBIOLOGY

Reactive arthritis typically arises after an infection with gastrointestinal or genitourinary bacterial pathogens (**Box 2**).

Chlamydia trachomatis is strongly associated with reactive arthritis. Nucleic acid from this organism has been detected in synovial fluid by direct immunofluorescence or polymerase chain reaction.[6] Gastrointestinal pathogens such as *Campylobacter jejuni, Clostridium difficile, Escherichia coli, Salmonella* (various species), *Shigella* (especially *S flexneri*), *and Yersinia* (especially *Y enterocolitica* and *Y pseudotuberculosis*). Respiratory pathogens such as *Chlamydia pneumoniae*[7] or *Mycoplasma pneumoniae*[8] have also been shown to give rise to reactive joint processes. Reactive arthritis may occur in the setting of human immunodeficiency virus infection, although human immunodeficiency virus is usually not directly associated and other pathogens are usually implicated.[9]

EPIDEMIOLOGY

Reactive arthritis typically occurs in sporadic cases, but may occur with increased frequency in the setting of outbreaks of infection. A systematic review of incidence of

Box 2
Inciting agents of reactive arthritis

Common

Chlamydia trachomatis

Salmonella (several species)

Shigella (especially *S flexneri*)

Campylobacter jejuni

Yersinia (especially *Y enterocolitica* and *Y pseudotuberculosis*)

Uncommon

Chlamydophila pneumoniae

Human immunodeficiency virus

Clostridium difficile