A rose by any other name is still a rose—but why a rose?

Christopher Columbus, age 41, returned to Europe from his first voyage to the New World suffering from what would turn out to be a chronic illness that included recurrent febrile bouts of severe lower-extremity arthritis. For many years he was thought to have had gout, but careful reanalysis led Allison[1] and then Arnett et al[2] to propose an alternative diagnosis. Based on the *pattern* of Columbus's arthritis and the accompanying symptoms, which these clinicians linked to the arthritis, they proposed the diagnosis of reactive arthritis—actually a subset of reactive arthritis, which at the time of their publications was called Reiter's syndrome. Arnett discussed this extensively at a historic clinicopathologic conference, noting that the bouts of arthritis were prolonged (too long for typical gout) and that the historically described recurrent episodes of red ("bleeding") eyes with intermittent "blindness" and ultimate immobility due to spine pain (arthritis) would not be typical of gout. Arnett et al recognized the pattern of this arthritis—lower-extremity-predominant with prolonged episodes, associated inflammatory eye disease, spine involvement, and the protracted course of nearly a decade—as far more typical of a reactive arthritis than gout (or ongoing bacterial infection), occurring in a likely HLA-B27-positive individual. They proposed that the probable trigger for the arthritis was an episode of food-borne bacterial infection acquired during the extensive transatlantic journey.

Fast forward about 470 years to an epidemic aboard a US Navy ship of *Shigella*-associated dysentery that was accompanied by readily diagnosed reactive arthritis.[3] Several diarrheal epidemics with associated reactive arthritis aboard cruise ships have been described, and the association is well documented following *Shigella*, *Salmonella*, *Campylobacter,* and nondiarrheal chlamydial infections.

In this issue of the *Journal*, Gómez-Moyano et al (page 23) present images of a patient with dermatologic features of reactive arthritis. I have two points to make in introducing this historical background. First, I want to highlight some features of this syndrome that are distinctive enough as a clinical pattern to enable a diagnosis by appearance alone or, as in the case of Columbus, by historical description alone. But second and more important, I wonder, as perhaps you do, why similar inflammatory features occur in patients of seemingly diverse backgrounds, triggered by different organisms that may have infected different mucosal areas. Why does this rose look like a rose and not a gardenia?

Reactive arthritis is classically thought of as self-limited, lasting less than 6 months. But a significant minority of patients may have chronic disease, particularly with spondylitis, which may be more common in patients who have the *HLA-B27* haplotype. The peripheral arthritis generally affects relatively few joints, with the larger lower-extremity joints a common target. Enthesitis, especially at the Achilles tendon heel insertion, is common, and dactylitis or "sausage digits" can occur. These features may also be seen in patients with psoriatic or enteropathic arthritis. Inflammation of the skin (as shown by Gómez-Moyano et al), the eye (conjunctivitis, uveitis, episcle-

doi:10.3949/ccjm.84b.01017

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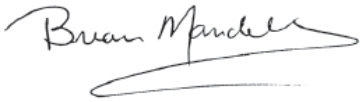
ritis), oral mucosa, and the genitourinary tract (urethritis, prostatitis) can also occur. Urethritis can occur in patients with enteric diarrhea as the trigger; thus, it is not just associated with genitourinary infections like chlamydia. What all these sites have in common to be targeted following an infection is not known with certainty; relevant bacterial antigens cannot always be detected in the involved tissues. It is intriguing that transgenic rats engineered to contain many copies of the human *HLA-B27* gene develop arthritis along with mucosal, eye, and skin inflammation, which can be avoided if the animals are raised in a germ-free environment. But probably fewer than 50% of patients with reactive arthritis have the *B27* gene, so other factors must contribute to this uncommon syndrome. *B27* is thus not a generally useful diagnostic test.

When a patient presents with acute inflammatory asymmetric oligoarthritis (affecting < 4 joints), infectious arthritis and crystal-induced arthritis need to be excluded. But looking for and finding other features more typical of reactive arthritis may spare the patient a more extensive and expensive inpatient evaluation.

Recognizing a rose can provide an aesthetic moment, even if we can't define exactly what makes it a rose. Pattern recognition matters in clinical practice, even without full understanding of the molecular backdrop.



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