

Painful and swollen hands

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A 67-year-old woman came to the office with pain in her hands. She had just arrived from Panama to live with her son. She has had this pain for decades: she refers to it as *arthritis* in Spanish but does not know what type of arthritis. Aspirin had helped in the past, but lately she had not been getting enough relief from it. Her hands feel stiff in the morning for at least 1 hour, which interferes with cooking and sewing.

Her hands showed signs of joint swelling and deformities (**Figure 1**). Her swollen joints felt warm. She also had knee pain.

■ **WHAT TYPE OF ARTHRITIS DOES SHE HAVE?**

■ **ARE ANY DIAGNOSTIC TESTS NECESSARY?**

■ **WHAT ARE THE BEST TREATMENTS AVAILABLE?**

That same day, another patient was seen with painful hands (**Figure 2**). What type of arthritis does she have, and how does it differ from the condition of the patient in **Figure 1**?

FIGURE 1 Painful, swollen hands



This patient's hand shows signs of joint swelling and deformities—obvious ulnar deviation of the fingers and swelling of the metacarpophalangeal joints.

FIGURE 2 Another patient with hand pain



A different patient's hand shows swelling and deformities in the proximal interphalangeal (PIP) and distal interphalangeal (DIP) joints.

FIGURE 3 Rheumatoid nodules on feet

The first patient also has 2 rheumatoid nodules on the lateral aspect of her foot, indicating rheumatoid arthritis.

The obvious ulnar deviation of her fingers and the swelling of the metacarpophalangeal (MCP) joints (**Figure 1**) are strongly indicative of rheumatoid arthritis. The patient in **Figure 2** has swelling and deformities in her proximal interphalangeal (PIP) and distal interphalangeal (DIP) joints, indicating that she most likely has osteoarthritis. The swelling of the PIP joints is called Bouchard's nodes; the swelling of the DIP joints is called Heberden's nodes.

■ DIFFERENTIAL DIAGNOSIS: TYPES OF ARTHRITIS

The first decision point in diagnosing chronic (>6 weeks) polyarticular joint pain is distinguishing between inflammatory and noninflammatory arthritis. Key features of inflammatory arthritis are stiffness in the morning or after inactivity, and visible joint swelling. The differential diagnosis of inflammatory arthritis includes rheumatoid arthritis, psoriatic arthritis, seronegative spondyloarthropathies, and systemic lupus erythematosus (SLE).

After the age of 50, maturity-onset seronegative synovitis syndrome and crystal-induced

synovitis should also be considered.¹ Although osteoarthritis is considered noninflammatory, inflammation of the joint tissue occurs occasionally due to the joint's degenerative loss of cartilage and bony overgrowth.

It is critical to identify rheumatoid arthritis early, as prompt intervention can delay disease progression, and reduce the substantial morbidity and mortality of rheumatoid arthritis.² A diagnosis of rheumatoid arthritis requires 4 of the following: morning stiffness; arthritis in 3 or more joints; arthritis in the wrist, MCP joints, or PIP joints; symmetric arthritis; rheumatoid nodules; positive rheumatoid factor; radiographic changes.¹ This patient has the morning stiffness, arthritis in more than 3 joints, symmetric arthritis, and rheumatoid nodules on her feet (**Figure 3**).

The most common noninflammatory arthritis is osteoarthritis, which affects 21 million Americans.² The weight-bearing joints are usually affected, and damage may occur because of trauma or repetitive impact. When the hands are involved, the DIP and PIP joints are more likely to be involved than the MCP joints.

■ DIAGNOSTIC TESTS CAN DIFFERENTIATE BETWEEN CAUSES

Laboratory tests can help differentiate between conditions causing inflammatory arthritis. Rheumatoid factor is positive in 70% of patients with rheumatoid arthritis, and the antinuclear antibody is invariably positive for patients with SLE. Maturity-onset seronegative synovitis has negative rheumatoid factor and antinuclear antibody tests with marked elevation in erythrocyte sedimentation rate. Polyarticular gout may have increased serum uric acid, and is best diagnosed by demonstrating crystals in the joint fluid.

Laboratory tests are not helpful in diagnosing psoriatic arthritis, seronegative spondyloarthropathies, and osteoarthritis with inflammation.¹ Radiographic studies may show joint erosions in patients with active rheumatoid arthritis for more than a year, and typical osteophytes and joint-space narrowing in osteoarthritis.¹

Radiographs are not necessary for the diagnosis of this patient but may help management, especially if hand surgery is going to be considered. In this case, the radiographs showed joint erosions and unequivocal juxta-auricular osteopenia.

■ MANAGEMENT: DECREASE PAIN, OPTIMIZE MOBILITY

The management of osteoarthritis and rheumatoid arthritis is different. However, in all types of arthritis the goals of therapy are to decrease pain, optimize mobility, and maximize quality of life. In rheumatoid arthritis, another goal is to slow the progression of the disease with disease-modifying antirheumatic drugs.

Osteoarthritis. First-line therapy for osteoarthritis includes exercise, weight loss (if indicated), and acetaminophen in scheduled doses up to 1000 mg 4 times a day. A recent Cochrane Review concluded that acetaminophen is clearly superior to placebo, but slightly less efficacious than nonsteroidal anti-inflammatory drugs (NSAIDs) for pain relief in osteoarthritis (level of evidence [LOE]: **1a**). Acetaminophen and NSAIDs were equivalent in improving function. This evidence supports the use of acetaminophen first, reserving NSAIDs for those who do not respond.³ Adding NSAIDs may improve pain relief, but carries an increased risk of gastrointestinal ulcerations or bleeding.

A cyclo-oxygenase-2 (COX-2) inhibitor may be preferred to NSAIDs for patients at high risk for gastrointestinal complications. Other treatments include topical analgesics, glucosamine, and chondroitin. Large clinical trials for glucosamine and chondroitin are ongoing.

Rheumatoid arthritis. In rheumatoid arthritis, the recommendation from the American College of Rheumatology is for early, aggressive intervention with disease-modifying antirheumatic drugs,

often within a few months of the onset of the disease.⁴ Unfortunately, the patient in **Figure 1** has had rheumatoid arthritis for decades. Patients with rheumatoid arthritis also benefit from exercise and physical therapy.

Other treatments include low-dose corticosteroids and NSAIDs or COX-2 inhibitors. COX-2 inhibitors have similar efficacy to NSAIDs, with a lower risk of gastrointestinal complications (LOE: **1a**).^{5,6} COX-2 inhibitors should be considered in place of NSAIDs for patients with rheumatoid arthritis, as these patients are almost twice as likely to suffer from serious gastrointestinal complications as the general population.² COX-2 inhibitors, however, are much more expensive than NSAIDs, which limits their use.

■ PATIENT'S OUTCOME

The patient was started on an anti-inflammatory medication and referred to a rheumatologist for consideration of a disease-modifying antirheumatic drug.

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