This 38-year-old businessman presented with pain in the heel, and transient itching and burning of his eyes. What can you see (Fig. 1), and what is your diagnosis?
There is soft tissue swelling and a large erosion of the plantar aspect of the calcaneus. Erosions at this site occur in ankylosing spondylitis, Reiter’s syndrome, psoriatic arthritis, rheumatoid arthritis, and in association with plantar fasciitis. However, in this case, hypertrophic changes are also apparent, and given the history of red eyes, the diagnosis of Reiter’s syndrome can be confidently made.

**DIAGNOSIS: Reiter’s Syndrome**

A patient with uveitis, urethritis, and sacroiliitis following an outbreak of dysentery in a regiment was described by Reiter in 1917. This triad was confirmed in 1923 and the eponymous title of Reiter’s syndrome was applied. Recently we appear to have had an epidemic of Reiter’s syndrome, and we thought that this would be a suitable place to review the radiological changes.

The classical radiographic finding in Reiter’s syndrome is bilateral symmetrical sacroiliitis usually associated with marginal sclerosis (Fig. 2). Although the sacroiliitis disappears in the majority of patients, in about 10% of patients the sacroiliac joint will ultimately fuse.

The second most common radiographic feature of Reiter’s syndrome is a destructive arthritis, classically involving the feet. It is asymmetrical and often unilateral. Frequently there is marked destruction of the metatarsal phalangeal joints, with subluxation and large erosions as well as hypertrophic changes (Fig. 3). The diagnosis of Reiter’s syndrome is confirmed by finding a discrete peripheral periosteal reaction, which may be at a site separate to the erosive arthritis (Fig. 4). Reiter’s syndrome may involve the spine, either as a patchy hypertrophic form with large flowing syndesmophytes, or in a way identical with ankylosing spondylitis, although this is usually a late manifestation of this condition.

The differential diagnosis of Reiter’s syndrome from the other forms of HLA B-27 positive rheumatoid variant disease may be difficult, although the presence of uveitis (or conjunctivitis) and urethritis will differentiate it certainly from psoriatic arthritis and rheumatoid arthritis, and possibly from ankylosing spondylitis. On radiological criteria alone, psoriatic arthritis most frequently involves the hands and the more peripheral joints; it is bilateral although asymmetrical (Fig. 5), and although it is also a hypertrophic form of arthritis, psoriatic arthritis rarely demonstrates the discrete linear periosteal reaction one can see in Reiter’s syndrome. Ankylosing spondylitis usually
only involves the extremities following extensive involvement of the spine, although erosions of the calcaneus can occur early in both conditions. Squaring off of the lumbar vertebral bodies is a typical finding of early ankylosing spondylitis and does not occur in Reiter’s syndrome. *Rheumatoid arthritis* is a bilateral symmetrical form of arthritis in women in their thirties, involving the metacarpophalangeal and metatarsophalangeal joints predominantly; calcaneal erosions are rare and occur late. Other *rheumatoid variants* and *plantar fasciitis* have characteristic clinical features that can usually be differentiated from Reiter’s syndrome.

Clinically, in Reiter’s syndrome the urethritis is frequently the first sign of the disease and may be asymptomatic. The uveitis and conjunctivitis are usually mild and transient, but produce burning and itching of the eyes. A characteristic skin lesion has been described in Reiter’s syndrome: keratoderma blennorrhagica, which occurs in 5% to 30% of cases and is most commonly seen on the soles of the feet and the palms of the hands as a keratotic lesion. Additional clinical findings may include fever, weight loss, diarrhea, peripheral neuropathy, and palpitations. The distribution of joints involved is characteristic with predominant changes in the lower limbs and the axial skeleton.

(continued on page 1207)
In psoriasis there is usually a long history of psoriatic skin disease. The arthropathies are more prevalent in patients with moderate to severe skin abnormalities, and nail changes correlate more closely with articular disease than do the skin changes. The terminal interphalangeal joints are usually involved, giving a characteristic appearance to the fingers. The distribution of joints involved in psoriatic arthritis includes the axial skeleton, and predominantly the upper limbs. In ankylosing spondylitis symptoms are of insidious onset and predominantly affect the axial skeleton, although peripheral joints may be involved. Uveitis occurs in 20% of patients and may be the presenting symptom. There is no skin involvement although other organ systems may be involved, giving rise to cardiac enlargement, aortic valve disease, pulmonary fibrosis, and inflammatory bowel disease, as well as loss of chest expansion. The distribution of joints involved in ankylosing spondylitis includes predominantly the axial skeleton.

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