Focus

A cautionary tale of tendonitis

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Case 1: A 73-year-old lady who lives alone came to see me because she could not walk. She had developed pain in her right calf which spread to her foot. After a week the same pain started in her left calf.

I had seen her two years previously for polymyalgia rheumatica and she had remained on a small dose of prednisone (5mg). She had made a good recovery from her left hemiparesis five years before. Otherwise, she was in good health but since she was distressed with the pain, unable to walk or to care for herself, she was admitted to hospital.

Clinically it was apparent she had ruptured both Achilles tendons. There was a clear gap in the tendons, she could not stand on her toes and there was bruising over the sole of her foot. Lying prone, squeezing her calf muscles produced no movement of the foot. The referral letter said she had been treated with ciprofloxacin for a urinary tract infection two weeks previously.

Operative repair was considered but thought to be too difficult due to the prolonged rehabilitation needed and the uncertainty of the outcome. Instead she was fitted with lightweight ankle-foot orthoses, given physiotherapy and analgesics. She remains significantly disabled in mobility and was not able to resume driving.

Case 2: The same week a 44-year-old woman consulted me because of recurrent Achilles tendonitis over the previous two years. It was revealed that she had been treated with several courses of norfloxacin for recurrent urinary tract infections. This was managed with heel raises, physio-therapy and advice to avoid this class of antibiotics in future.

Discussion

The first reports of an association between fluoroquinolone antibiotics and tendonitis came from New Zealand and France in 1992. There have been many since and by 1994 the FDA had received 25 reports of tendon rupture. Seventeen of these were of Achilles tendons but shoulder and hand tendon rupture was also described. The age range was 33-85 years, and the tendon ruptures occurred at therapeutic doses at a range of two to 42 days after first dose. Of these 25 cases, 14 were also taking steroids and four occurred in people of advanced years, but in nine there were no other risk factors.

Appropriately for a tendon problem, a prospective ultrasound study was conducted at the Hospital Universitaire Dupuytren. Some 23 subjects (15 female) were given a fluoroquinolone orally for two weeks. All had normal Achilles tendons at day 0. By day seven, 14 (61 per cent) had echographic tendonitis. Both sides were affected in seven, and two (7 per cent) were symptomatic.

The ultrasound features were of hypoechogenicity (50 per cent), peri-tendous effusion (28 per cent) and tendon thickening (22 per cent). Thankfully, for a volunteer study in healthy controls, no ruptures occurred.

The mechanism by which fluoro-quinolone antibiotics cause this problem is not clear. In animal studies, they can cause arthropathy. There is evidence of collagen depletion and disruption of the extracellular matrix. The antibiotics in this class available in New Zealand are ciprofloxacin and norfloxacin. They are best avoided in children, adolescents and pregnancy. Care should be taken when prescribing for those on steroids. If tendon pain develops, the antibiotic should be stopped and the patient advised to rest the limb and avoid exercise. Diagnostic ultrasound is the most convenient and cheapest way to prove the diagnosis.