

Soft tissue rheumatic disorders

Part 2. Treatment

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Treatment involves setting realistic patient expectations and judiciously selecting therapy from the many physical, pharmacological and other modalities available, according to the condition and site affected.

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In the previous article in this two-part series on soft tissue rheumatic disorders, we outlined the aetiology of these disorders and focused on history taking, physical examination and investigation. The initial task is to localise the region and structure affected and to identify whether the complaint is noninflammatory – and related to biomechanical abnormalities or tendon pathophysiology with ageing – or inflammatory and potentially related to systemic rheumatic disease or other disorders.

In this article, we will discuss the treatment of noninflammatory soft tissue rheumatic problems. We will then focus on common problems that illustrate the general approach to diagnosis and treatment. More detailed descriptions of specific conditions can be found elsewhere.¹

In outlining the rheumatologist’s general approach to soft tissue rheumatic conditions, we recognise that practitioners from other disciplines may have different perspectives and may place more emphasis on physical measures than on interventions, or vice versa. However, as Schopenhauer observed, ‘All truth passes through three stages. First, it is ridiculed. Second, it is violently opposed. Third, it is accepted as self-evident’. Most practitioners would concur that few, if any, treatments for soft tissue rheumatic disorders have graduated to Schopenhauer’s third stage of truth.

PRINCIPLES OF TREATMENT

What are the patient's expectations?

A practical problem in treatment is that patients often do not appreciate that soft tissues have a capacity and rate of repair different to those of other parts of the body. For example, lateral epicondylitis ('tennis elbow') often develops as the end result of microtrauma and microtears, and the tendon does not heal in the same sense or at the same rate as bone fractures or skin defects. It is important that patients understand the pathophysiology and natural history of their condition and have realistic expectations about the speed and degree of recovery, based on the integrity of aged tendons, their limited capacity for repair and comparatively slow repair rate.

What is the evidence base for treatment?

Almost all of the large range of modalities used in the treatment of soft tissue pathology have been studied in relation to tendinopathy rather than bursitis, and many modalities have at best low-level evidence of efficacy, as assessed by the Cochrane Collaboration. Furthermore, in clinical practice, multiple interventions are often used concurrently. Studies of individual modalities, even when compared 'head to head', cannot reflect the potential for compounding effects when multiple physical and pharmacological interventions are combined.

In addition, not all treatments have comparable effectiveness in all conditions and parts of the body. It cannot be inferred that a treatment with an evidence base for efficacy in one situation, such as tendinopathy of the origin of common extensor tendons (e.g. tennis elbow), will be effective in another situation.

Invasive techniques may be subject to significant placebo effects, and appropriate control groups can be difficult to design. Placebo effects, which are augmented by the expectation of benefit and the therapeutic context, may be particu-

larly powerful with new 'high technology' interventions. The possibility of these augmented placebo effects should be considered for new interventions, particularly in the absence of well-designed placebo-controlled trials.

TREATMENTS

Physical therapy

Physical therapy is the mainstay of treatment for noninflammatory soft tissue rheumatic disorders. A core approach is to correct biomechanical imbalances, lack of flexibility and weakness through therapeutic exercises, including eccentric exercises, which allow a muscle to 'play out' against resistance.² The use of orthotic devices, braces, strapping and taping may also be appropriate, depending on regional biomechanics. Associated modalities include icing and heat (including hyperthermia), therapeutic ultrasound, massage including transverse friction massage, iontophoresis (where a small electric charge delivers a medication through the skin) and laser therapy. Again, practitioners of different disciplines vary in their emphasis and use of certain techniques.

Pharmacological treatments

Pharmacological treatments for non-inflammatory soft tissue rheumatic disorders include simple analgesia, oral and topical NSAIDs, injected corticosteroids and whole or fractionated glyceryl trinitrate patches (which are not TGA approved for this indication). As previously mentioned, comparative (head to head) and randomised trials of these modalities have been performed for certain conditions, but their efficacy in other situations cannot be inferred.

Other modalities

Other modalities used to treat soft tissue rheumatic disorders include extracorporeal shock wave therapy, prolotherapy, sclerotherapy (injections of an irritant solution), and injection of blood products, putative growth factors and stem cells.

CHOICE OF TREATMENT

Some broad comments can be made. Evidence seems to support the use of eccentric strengthening in degenerative Achilles tendinopathy and lateral epicondylitis.

NSAIDs may have no more than analgesic effects, and the potential for systemic side effects and drug interactions must be borne in mind.

Corticosteroid injections are generally considered helpful for short-term pain control, and may be very helpful in improving sleep quality in patients with shoulder rotator cuff disease. However, there is no firm evidence of their efficacy in the medium to long term at other skeletal sites, other than in de Quervain's tenosynovitis. In addition, the risk of tendon rupture is well known with corticosteroid injections into the Achilles tendon, and these are generally to be avoided. In definite cases of Achilles paratenonitis (inflammation of the Achilles tendon sheath rather than the tendon), where injections may be effective, ultrasound guidance for correct placement is advisable. In fact, in all cases where there is any doubt or concern that a corticosteroid can be confidently placed in the correct anatomical site, ultrasound guidance is appropriate.

As injected corticosteroids are used by a variety of medical practitioners, common patient misconceptions and the facts about corticosteroid injections are discussed in the box on page 63.^{3,4}

Glyceryl trinitrate patches appear to be helpful in studies of Achilles tendinopathy, rotator cuff disease and lateral epicondylitis, although the basis of any response – whether due to analgesic or healing effects – is unknown.

Extracorporeal shock wave therapy appears efficacious only in calcific tendinitis of the shoulder, as distinct from other locations.

There is no clear consensus concerning the roles of prolotherapy, sclerotherapy or injection of blood products, growth factors or stem cells. Future systematic

studies – which are currently lacking – may help to establish whether these modalities are efficacious.

DIAGNOSIS AND TREATMENT OF COMMON SOFT TISSUE RHEUMATIC PROBLEMS

Trochanteric bursitis

In trochanteric bursitis (often used as an umbrella term for gluteal tendinopathy/tendinitis as well as bursitis), patients report dull, nonradicular upper lateral thigh pain, localised to the greater trochanter or often radiating to the lateral thigh but rarely past the knee. Pain is often worsened by climbing stairs, getting out of a car and lying on the side at night. The pain does not radiate to the groin and there are no associated neurological symptoms.

Examination often reveals tenderness over the greater trochanter, a positive Trendelenburg's sign (indicating gluteal muscle weakness) and pain on resisted hip abduction. The pathology is of bursitis or tendinopathy and enthesopathy of the gluteus medius or gluteus minimus.

Treatment includes identification of biomechanical anomalies in the lower limb (valgus knee posture or pes planus), physical therapy to remediate peripelvic weakness, analgesics, systemic anti-inflammatories and local corticosteroid or local anaesthetic injections.

Plantar fasciitis

Symptoms of plantar fasciitis include medial heel pain with walking, especially with the first steps in the morning, and later with weight bearing. The pain may be exacerbated by running. Risk factors for plantar fasciitis include overweight or obesity, embarking on a new exercise regimen, foot arch deformities such as pes planus and pes cavus, and possibly a dramatic change in footwear. Examination reveals tenderness on the medial aspect of the calcaneus and pain with passive dorsiflexion of the foot.

MYTHS AND FACTS ABOUT INJECTED CORTICOSTEROIDS^{3,4}

Myth 1. Injected corticosteroids affect bone density

Fact and tip: Bone metabolism is unlikely to be affected by an occasional injection as very little corticosteroid is absorbed systemically. Nevertheless, repeated injections should be avoided.

Myth 2. One can only have three injections (anywhere) over a lifetime, or in any one joint over a lifetime

Fact and tip: There is no scientific basis for this statement. The practical reason not to inject a single joint or structure more than three times in a year is that the need for this indicates insufficient local control of the disease, as well as the possibility of failing to diagnose potential septic arthritis. Older orthopaedic research in animals suggested that there might be a risk of developing a neuropathic joint with repeated high corticosteroid dosages that do not reflect clinical practice.

Myth 3. Injected corticosteroids are hazardous

Fact and tip: The risk of septic arthritis after a corticosteroid injection is one in 10,000. This is operator-dependent. Many 'post-injection' joint infections are a result of injection into an unrecognised septic joint. Never, under any circumstances, inject a prosthetic joint. Aspiration of a prosthetic joint should only be undertaken for the investigation of suspected sepsis under surgical advice.

Myth 4. Injected corticosteroids are very painful

Fact and tip: Pain with injections (particularly in joints) usually indicates inadequate local analgesia and/or inaccurate placement, although injections into the common extensor and flexor origins in the forearm or in the vicinity of the plantar fascia entheses are often uncomfortable. If in doubt, radiological guidance can be used but greatly increases the cost of the procedure and may not be readily available. The best results from injected corticosteroids are usually obtained if the structure is rested, when practical, for 24 to 72 hours after the injection. Local icing and paracetamol may be appropriate after some soft tissue injections. Maximal improvement after an injection will mostly be evident by two weeks.

Treatment includes avoidance of exacerbating activities, use of supportive footwear and orthoses, and an exercise program to stretch the plantar fascia, strengthen the intrinsic foot muscles, and stretch and strengthen the calf muscles. Anti-inflammatories and local cortisone injections can also be used. Some cases may settle quickly with rest and partial immobilisation with a walking boot. Resolution within 12 to 18 months is usual but not universal. Surgery is rarely needed. The possibility of spondyloarthritis should be considered in a younger

person without obvious biomechanical abnormalities, particularly if there are recurrent problems in the lower limbs.

Achilles tendinitis and tears

Symptoms of Achilles tendinitis and tears include activity-related posterior heel pain (insertional) or mid-tendon pain and swelling. Mid-tendinopathy affecting the body of the tendon and paratenon can be caused by repetitive activities, and insertional pain and swelling can be associated with enthesopathy caused by spondyloarthritis.

On physical examination, feel for a palpable gap in the tendon and check tendon integrity with Thompson's test (squeezing the calf should produce foot movement; its absence suggests the Achilles tendon is fully rather than partly torn). This examination is especially important in older patients.

There is good evidence to support treating Achilles tendinitis with an eccentric exercise program to strengthen the calf muscles.^{5,6} Other treatment suggestions include using heel raises in the shoes, although there is little high-quality evidence about this intervention. There is no evidence available to support the use of night splints. We do not recommend corticosteroid injections because of the risk of Achilles tendon rupture. A complete rupture of the Achilles tendon should generally be repaired surgically.

Shoulder rotator cuff disease

It has long been appreciated that rotator cuff degeneration is often asymptomatic. Its prevalence increases with age, and many so-called 'acute' tears represent cumulative wear and failure of repair in the watershed area of the tendon, where blood supply is weakest. Sensitive investigations such as ultrasound and MRI often identify pathology that may be asymptomatic and consistent with ageing. Cadaveric studies have found rotator cuff tears in 30% of people at a mean age of 70 years, but MRI may disclose abnormalities in nearly 50% of those aged 50 years; hence much rotator cuff degeneration is asymptomatic.⁷ Rotator cuff disease also occurs in young people who participate in racquet and other sports requiring overhead reaching or throwing.

Symptomatic tears generally present with pain in the upper arm and deltoid insertion, often felt at night, particularly when the patient lies on the affected side. A painful arc and pain with resisted abduction are found on examination. Weakness and muscle atrophy are signs of a complete tear.

Treatment of rotator cuff disease includes analgesia with paracetamol and NSAIDs. Subacromial corticosteroid injections can give short-term pain relief and may dramatically relieve night-time pain, as well as facilitate exercises to increase shoulder girdle strength; physical therapy may have an additive effect.

Lateral epicondylitis

Lateral epicondylitis (tennis elbow) is common. The site of pathology is the insertion of the common extensor tendons of the forearm muscles. The main symptom is pain in the epicondyle region, which can radiate distally to the forearm, particularly with gripping. Examination reveals pain with resisted extension of the wrist and hand grip.

Initial treatment includes avoidance of heavy lifting and aggravating activities, and rehabilitation to facilitate a return to normal activities. Forearm braces, exercise therapy and corticosteroid injections all have evidence of some benefit, although in most cases the evidence is slight. Repeated corticosteroid injections should be avoided.

CONCLUSION

In managing soft tissue rheumatic disorders, ensure patients have realistic expectations about the likely speed and degree of recovery. Evidence for many treatments is at best low level. Physical therapy, including therapeutic exercises, is the mainstay of treatment, but analgesics, anti-inflammatories, injected corticosteroids, glyceryl trinitrate patches and extracorporeal shock wave therapy can play a part depending on the condition – bursitis, tendinitis or tenosynovitis – and the site affected. The roles of sclerotherapy, prolotherapy and injection of blood products, growth factors and stem cells are currently unclear. **MT**

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