Resource

Managing the pain of rheumatoid arthritis

Understanding the causes of pain in RA can go a long way to helping you to find the best ways to manage your pain.

Print

Pain is an extremely personal experience. While this review will try to explain some of the simple mechanisms of pain and the current treatments for pain in rheumatoid arthritis (RA) patients, such an overview represents a view based on an understanding of the evidence-based literature on current RA therapies and an individual rheumatologist's experience – it cannot fully explain every individual patient's pain problems. All pain that is present for a reasonable length of time, no matter what the

underlying cause, can be associated with poor sleep patterns and depressed mood. The stress associated with RA-related job loss or relationship problems all impact on how we cope with pain. Pain involves not only the nerves at the site of pain but the nerve pathways leading to the brain and special pain pathways within the brain itself. Very simply, pain is a complex phenomenon.

Why do people with rheumatoid arthritis get pain?

If you are reading this article, then you probably already know a little about RA and that it is a chronic inflammatory disease. The disease process seems to start in the joint lining tissue (called the synovium), and this tissue becomes very inflamed – this is termed synovitis. It is widely assumed that synovitis, together with all the inflammatory chemicals and inflammation of local nerve fibres, is the cause of pain in RA. It is most important though to realise that people with RA will have often have pain for a number of other reasons. It is therefore helpful for an individual to learn something about what is causing their individual pain.

Early on in the disease process, much of the pain probably arises from RA synovitis. The simplest evidence suggesting that treatment of inflammation relieves pain is seen in the experience of many patients who have had a corticosteroid (steroid) injection into an inflamed joint, with subsequent quick-onset relief of pain. However, some other important factors cause pain in a lot of RA patients. After having RA for even a few months, patients will have a lot of muscle wasting: in the forearms (e.g. trouble opening jars) if they have arthritis in their hand joints, or in the thighs (e.g. trouble getting out of chairs) if they have a lot of knee problems. These weak muscles mean excess strain is taken through not only the affected painful joint but also through adjacent joints because of abnormal use of the whole arm or leg.

With even the best of modern therapies, prolonged inflammation in individual joints may lead to some joint damage and a process of osteoarthritis (called secondary osteoarthritis because it happens as a result of the RA). Osteoarthritis refers to the process of permanent cartilage and adjacent bone damage, usually associated with ageing and injured joints; the mechanisms of pain in osteoarthritis are probably different from those of RA pain.

So in summary, after a variable length of time but certainly after a few years, most patients with RA will have pain relating to any or all of:

- Active inflammation in a joint (synovitis)
- Usage-related joint pain due to muscle weakness (probably due to inflamed tendons)
- Secondary osteoarthritis

This is why it is unusual to find that just one therapy is completely effective at relieving any one person’s pain. It is also important to realise that the cause of pain may differ between joints within an individual patient.

How do we tell what the cause of joint pain is in an RA patient?

When a rheumatologist sees a patient with RA and pain is their primary complaint, the first step is often to assess how active the synovitis or inflammation component due to RA is since treatment of this is important not only to prevent pain but also to prevent further joint damage. Rheumatoid arthritis inflammation is often associated with prolonged morning stiffness of 1-2 hours, whereas an

osteoarthritic joint will be painful and stiff for only a few minutes on waking and then get worse with use over the day. The rheumatologist will also assess the degree of inflammation by feeling the number of tender and swollen joints and performing blood tests that indicate general inflammation levels (called the erythrocyte sedimentation rate or ESR and the C-reactive protein or CRP).

It is often difficult in patients with long-standing disease to determine whether persistent RA inflammation or osteoarthritis is the problem in any one joint, and this may be especially difficult in large joints such as the knee. As stated above,?often more than one problem is present.

What can be done for RA pain?

It should be stressed that adequate suppression of inflammation is the first step in managing RA pain. However, since the pain in RA may have multiple causes, a combination of treatments is often required. Most patients who have RA will be familiar with many of the treatments listed below:

A. Non-drug therapy for pain

Resting inflamed joints is a well-tried method for assisting in pain relief, and the use of splints on the wrist is a commonly used tool to reduce pain in that site. The use of a walking stick helps take weight off an affected knee or hip joint. The use of thick, cushioned-soled shoes and arch-supports can help foot pain, or even getting made-to-measure shoes that fit a rheumatoid-damaged foot!?
However, these devices do not re-build muscles that have wasted due to joints being immobile.

Some patients also find benefit from applying heat or cold to painful joints. Hot baths or showers can ease stiff joints, while the pain of hot, inflamed joints can sometimes be relieved with the application of a cold pack, such as a gel pack or bag of frozen peas, wrapped in a tea towel.?But these benefits are often short-lived.

Strong muscles take weight off painful joints. How do you know if your muscles are weak? If you cannot undo a jar or get out of a chair/car easily, then you have weak muscles. Simple forearm exercises (such as sustained squeezing of a rolled-up sock while resting the arm on a cushion) will reduce hand pain, and straight leg raising (quadriceps) exercises will reduce knee pain. Some patients with RA will, of course, find it difficult to exercise because of fatigue, which is a common symptom of rheumatoid arthritis. However, for many patients, gentle exercise will be beneficial; for example, walking laps in a swimming pool allows for leg muscle strengthening while reducing load through an inflamed or damaged joint. Aim to get strong before taking up more aerobic activities like brisk walking or exercise bike.

If joint damage is severe, then sometimes the only therapy that will help relieve pain significantly is to surgically replace the joint. Joint replacement is a successful treatment for severe arthritis involving the knee and hip, but can also sometimes be used in the shoulder, elbow and small joints of the hand.

Depending on the source of the pain, other members of the multi-disciplinary team at your hospital may be able to help, for example, occupational therapists can provide splints, podiatrists can help you with foot, and footwear problems and physiotherapists can help you with muscle strengthening. You may also be able to get access to a pain clinic, but availability of all of these services will vary between hospitals. For more information on the multi-disciplinary team, please click here.

B. Drug therapy for RA pain

The usual drugs used for treating the inflammation of RA are:

- non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, diclofenac and naproxen
- disease modifying anti-rheumatic drugs (DMARDs), including methotrexate, hydroxychloroquine or sulfasalazine; the biologics including anti-TNF or anti-interleukin 6 therapies, rituximab and abatacept; and JAK inhibitors (tofacitinib and baricitinib)

- corticosteroids (which may be used orally as prednisolone or via joint injections or injections into the buttock muscle).

Most studies of RA focus on anti-inflammation therapies, and in large studies, it is not always practical to work out how much of an individual’s pain is due to tendon and osteoarthritis pain.

It is uncommon to find one drug that relieves all arthritis pain for any one person. The medications

commonly used to treat musculoskeletal pain, including that associated with RA, are:

PARACETAMOL

This is commonly used for joint pains, although it seems to have only mild joint pain-relieving effects. It is generally safe in doses up to 2 grams daily. Very high doses or high regular use together with heavy alcohol intake can lead to liver damage.

NSAIDS

These agents may be used orally or as topical preparations (i.e. creams or gels) and act not only as anti-inflammatory agents but also as analgesics (painkillers). They typically have a quick onset of action, need to be taken at least once a day and their analgesic effect lasts for a number of hours, depending on the particular drug used. The major side effects of NSAIDs include dyspepsia (upper abdominal burning or bloating sensation, often described as indigestion) and very uncommonly stomach ulcers and bleeding. One type of NSAID called COX-2 selective drugs (sometimes referred to as coxibs) may have fewer serious stomach side effects. As well, your doctor can prescribe another drug with the NSAID (called a proton pump inhibitor or PPI) that may reduce stomach problems. All NSAIDs and COX-2 drugs may cause aggravation of blood pressure and ankle swelling (by causing fluid retention) and importantly they may increase risk of angina and stroke, so they should not be used in people with (or at high risk of) heart problems or stroke.

CORTICOSTEROIDS

Corticosteroids, also known as ‘steroids,’ are potent anti-inflammatory and painkilling agents. However, their long-term use is associated with greater risk of osteoporosis, diabetes, hypertension and infection. Therefore, corticosteroids are often administered when your doctor thinks inflammation is playing a big role in your pain. They are often given by joint injection to limit their side effects (for one or two painful joints), or by intramuscular injection or short-term oral course if several joints are painful.

OPIOID ANALGESICS

The most common medications used in this category include paracetamol/codeine combinations, dihydrocodeine and tramadol. They usually come in tablets, but some opioids are in transdermal (topical skin) patches for more sustained drug delivery. Unlike paracetamol and NSAIDs which work in the joints themselves, opiate-derived drugs work in the central nervous system. The term “opiates” is often associated with fears of addiction. However, many patients use low doses of such drugs for chronic pain without becoming addicted. Doses of these drugs are usually increased in a step-wise manner to get a balance between pain reduction and unwanted side-effects. The common side-effects of this class of drugs are constipation, nausea, drowsiness and falls. High fibre diet and laxatives may be useful if the drugs are helping pain but causing constipation. Drowsiness may be helpful if the drugs are used at night in people with sleep disturbance due to pain, but care must be taken during daytime activities such as driving (if you are on stronger analgesics you should check with your doctor to see if the drug is licensed for people who want to drive).

OTHER MEDICATION OPTIONS

Combinations of the above drugs may be useful in some patients since the drugs work in different ways, for example, combining an NSAID and an opioid analgesic. Surprisingly there are few trials of combination drug therapies. Certain antidepressants may help pain, though the benefits seem small and they may work through beneficial effects on sleep and mood.

When is the best time of day to take my painkillers?

It is worth thinking about what type of analgesic you are using and how long it works for. Paracetamol and many of the other analgesics listed above will have effects lasting a few hours and therefore require multiple daily dosing if you have all-day pain. If your worst symptoms are first thing in the morning, it may be worth trying drugs that last many hours (slow-release or modified release preparations) and taking them before you go to bed (but please note that if they are NSAIDs, they must not be taken on an empty stomach). This can be discussed with your doctor.

Summary

Pain is complex, and the causes of pain in RA may be due to inflammation and/or related mechanical factors, especially those associated with getting weak. Hopefully, this article has provided some information on the cause of RA joint pain and an understanding that inflammation control, analgesics and non-drug therapies (especially muscle strengthening) are all important in helping reduce the burden of pain.

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Read more

RA medication

RA is a very variable condition so, doctors do not start all patients in exactly the same way on the same drug regimen.