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Rheumatoid Arthritis

Up to 500000 people in Ireland suffer from arthritis. Arthritis is a general term used for the condition; however there are over 100 types of arthritis. The two most common types of arthritis are osteoarthritis and rheumatoid arthritis. Rheumatoid Arthritis (RA) is one of the most debilitating forms of the condition. For the purpose of this article, I will refer to rheumatoid arthritis as RA for short.

Rheumatoid Arthritis

Rheumatoid arthritis (RA) occurs as a result of the body's immune system attacking the joints and causing inflammation of the lining of a joint and the tissues surrounding it. About 1% of the population suffers from rheumatoid arthritis and 80% of sufferers develop it between the ages of 35 and 50. About 1 in 20 of affected people has a severe form of it with many joints affected. Up to half of all people are unable to work within 10 years of diagnosis.

What is rheumatoid arthritis?

Arthritis means inflammation of the joints. Rheumatoid arthritis (RA) is an autoimmune disease. Usually your body's immune system produces white cells and proteins called antibodies to destroy foreign substances such as viruses and bacteria. With autoimmune diseases, your immune system mistakes the body's own tissue as foreign and attacks it, leading to inflammation.

Symptoms of rheumatoid arthritis

The symptoms develop quite slowly initially. Discomfort and some swelling in hands and feet are often the first symptoms. Stiffness, especially in the morning is a classic symptom of RA, and this stiffness often reduces during the day. The hands, wrists, feet, ankles and knees are affected in over 80% of cases. The symptoms are often symmetrical meaning that both sides are affected equally (eg) both knees affects equally

Rheumatoid nodules may develop which are fleshy lumps that usually appear on hands, feet and elbows. These aren't painful but they can cause difficulty using hands.

Up to 30% of sufferers may present with non arthritis type symptoms without obvious joint swelling such as malaise (general feeling of being unwell), weight loss and myalgia (muscle pain). Depression can be a feature of RA. RA is thought to be associated with an increased rate of cardiovascular disease and there is evidence of an increased death rate from heart related problems in RA sufferers.

In summary, the main symptoms of RA are:

- Joint swelling
- Pain/stiffness (commonly in morning and lasting more than one hour)
- Weakness
- Deformity
- Fatigue
- Malaise
- Fever
- Weight loss
- Depression

Causes of rheumatoid arthritis

The exact cause is unknown but there is a genetic link as RA tends to run in families. RA is three times more common in women than in men. It's common for the symptoms of RA to improve during pregnancy - this suggests that hormones and the immune system may be involved in triggering the condition. Certain lifestyle factors such as obesity and smoking can increase the likelihood of getting arthritis.

Diagnosis of rheumatoid arthritis

It is important to get a diagnosis early as earlier treatment is started in RA, the more effective it will be. If not treated, the condition may lead to serious disability. It can be difficult to diagnose RA because many other conditions such as gout, fibromyalgia and osteoarthritis may make the joints painful. Symptoms are a good indicator of the condition. However X rays of joints and blood tests such as testing for the presence of a “rheumatoid factor” or an “anti-CCP antibody” can be more conclusive in diagnosing the condition.

Formal diagnosis is based on the American College of Rheumatology (ACR) diagnostic criteria.

According to the ACR criteria for diagnosis of RA, at least four of the following symptoms must be present:
1. Morning stiffness in affected joints lasting at least one hour
2. Soft tissue swelling of at least 3 joint areas
3. Swelling of finger, hand, or wrist joints
4. Symmetrical swelling (ie) equal both sides
5. Rheumatoid nodules
6. Presence of rheumatoid factor (rheumatoid factor is an auto-antibody which shows up in blood tests and it an indicator of arthritis)
7. Erosion of bone which shows up in X-rays, particularly in hand, wrist or feet joints

Rapidly progressive RA

RA can be rapidly progressive in some people. In these cases treatment must be started early to prevent irreversible joint and other damage. Indications that the disease is rapidly progressing include high ESR or C-reactive protein levels (indicators of inflammation in blood tests), early erosive damage on x-rays, increasing number of affected joints, disability early in the condition, high levels of rheumatoid factor and the presence of extra-articular features at diagnosis. Extra-articular features include non joint symptoms of RA such as damage to skin, heart, lungs, and eyes.

Treatment of rheumatoid arthritis

Self-help

- Find a balance between exercise and rest. Swimming is an excellent activity because it strengthens your muscles and joints without putting any strain on them.
- Losing excess weight will reduce the pressure on your joints.
- Try to eat a healthy, balanced diet and cut down on saturated fats.
- A hot water bottle is useful when joints feel stiff and painful; try an ice pack if they are hot and irritated.
- Omega 3 fish oil has been proven to have an anti-inflammatory effect.

  There is a new Omega 3 product on the market called “Lyprinol®”. It has been proven to be a powerful anti-inflammatory product which comes with none of the side-effects commonly associated with traditional fish oils, steroids or prescription anti inflammatory medication such as NSAIDs. Lyprinol® comes from the New Zealand Green Lipped Mussel, which has long been recognised by the Maori people for its nutritional qualities. Lyprinol® is said to be 200 to 300 times more effective than other fish oils and flax seed. As a result, Lyprinol has been shown in research to be very effective for arthritis and joint pain. Lyprinol® is now available in Whelehans Pharmacy.

Medication

There is no cure for arthritis however medicines can relieve symptoms and reduce progression. In brief, the treatment options for RA are as follows:

- Painkillers such as paracetamol may help to relieve pain although they won't affect the progression of arthritis.
- Non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen (eg Nurofen®) and diclofenic (eg. Diclac®, Difene®) reduce inflammation and so relieve pain and swelling. NSAIDs are available as creams or gels that can be rubbed onto painful areas; they have fewer side effects than NSAIDs taken orally however they are not usually sufficient for treating inflamed joints. Whelehans have a less expensive generic version of NSAID gel

called Diclac gel®.

- Disease-modifying antirheumatic drugs (DMARDs) such as sulfasalazine and methotrexate work to slow down the disease process and delay joint damage.
- Four new medicines, infliximab, etanercept, adalimumab and rituximab, have been developed recently. These are only used if other treatments are unsuccessful.

Current guidelines

Current guidelines recommend early diagnosis and early referral (ideally within 3 months of symptom onset) to a rheumatologist for the introduction of disease modifying anti-rheumatic drugs (DMARDs).

More details on medicines used

Pain Control

Although DMARDs may be introduced at time of diagnosis, they have a slow onset of action and can take weeks for an improvement. DMARDs have little or no impact on pain initially. Most people will require at least initial courses of painkillers or non-steroidal anti-inflammatory drugs (NSAIDs). The need for painkillers may be reduced once the DMARDs start to exert their effect after a few weeks.

Paracetamol

Paracetamol on its own is seldom sufficient to control acute pain in RA; however there is evidence that regular dosing of paracetamol enhances the painkilling effects of NSAIDs in RA. Therefore a combination of paracetamol and NSAID may allow a reduction of the NSAID dosage and therefore reduce the risk of side effects of NSAIDs.

Opioid analgesics

Opioid analgesics such as tramadol (Zydol®, Tradol®) may be used during attacks of RA, especially in the elderly who may not be able to tolerate NSAIDs. Their continuous / long-term use is not recommended due to the risk of addiction, cognitive impairment (eg. Memory loss, confusion), constipation and respiratory depression. Paracetamol / opioid combinations such as Solpadeine® or Ixprim® are sometimes used for RA, especially in those at risk of developing problems with excessive NSAID use.

Corticosteroids

Corticosteroids such a prednisolone (Deltacortil®) are useful in the management of acute pain and also have disease-modifying properties. Over the short-term they exert an effect on the symptoms of RA but their efficacy diminishes over time. The preferred method of administration of corticosteroids is intra-articular injection, which is an injection directly into the joint (eg) Depo-Medrone® injection. This produces rapid symptom relief and does not cause the side effects of oral corticosteroids such as stomach irritation. However the effects of intra-articular steroid injections usually wear off within a month so they are not a long term solution. Where there is multiple joints involved, local injection directly into the joints is not possible, so an intramuscular injection (e.g. 120mg methylprednisolone) may be given, while waiting for DMARDs to take effect. Oral corticosteroids should only be used in conjunction with DMARDs until the DMARDs

take effect or for flare ups in between. Long-term use of even low-dose corticosteroids may result in osteoporosis and other steroid-related side effects such as weight gain, thinning skin, easy bruising and high blood pressure.

NSAIDs
NSAIDs reduce swelling and stiffness in addition to providing pain relief, and they improve quality of life in the majority of cases with acute RA. However side effects include gastric irritation, kidney damage, fluid retention and skin reactions, as well as evidence linking selective COX-2 inhibitors (eg. Arcoxia®, Celebrex®) to increased risk of myocardial infarction (heart attack). Therefore, long-term use is not recommended, especially in people with known cardiovascular and gastrointestinal problems and only one NSAID should be used at any one time.

Disease-modifying antirheumatic drugs (DMARDs)

DMARDs help to ease symptoms and slow down the progression of RA. When antibodies attack the tissue in the joints, they produce chemicals that can cause further damage to the bones, tendons, ligaments and cartilage. DMARDs block the effects of these chemicals. The earlier a DMARD is started, the more effective it will be. They must be started by a consultant rheumatologist; therefore, it is important to seek treatment with a rheumatologist early if showing signs of RA.

The most commonly used DMARDs include methotrexate, hydroxychloroquine (Plaquenil®) and sulfasalazine (Salazopyrin®). Similar efficacy has been reported for methotrexate and sulfasalazine in studies of up to 12 months. The response of DMARDS is usually monitored every 1 to 3 months initially until symptoms improve.

Methotrexate is often the first choice DMARD for RA. It can be taken on its own or in combination with another DMARD. The most common side effects of methotrexate are sickness, diarrhoea, mouth ulcers, hair loss or hair thinning, and rashes on the skin. Regular blood tests to monitor blood count and liver are required as methotrexate can cause potentially very serious liver and blood count problems. Very rarely, it can affect the lungs, so chest X-rays and possibly breathing tests are performed when starting methotrexate. Most people tolerate methotrexate well and more than 50% of people take it for at least five years.

Methotrexate improves symptoms by 50-80%, slows the rate of joint destruction (as seen on x-ray) and improves function and quality of life.

Doses of methotrexate up to 20mg weekly may be needed. Methotrexate injections may be considered in severe acute RA, if tablets are ineffective or in those unable to tolerate methotrexate tablets. It takes 6 to 12 weeks for methotrexate to start working. Methotrexate may also be combined with biological treatments.

It is very important to **remember** that methotrexate is a **weekly** dose. Taking it daily by mistake can cause serious medical problems.

Sulfasalazine has a slow onset of effect (1 - 3 months). Some people get gastrointestinal problems (eg. Nausea, stomach pains) from sulfasalazine and may need to stop taking it.

Hydroxychloroquine takes several weeks to exert its effect. It has been reported to be less effective than the other DMARDs but has fewer side effects; therefore it may be useful in mild RA or in combination therapy. However it can cause eye damage so regular eye checks are needed.

It is important to keep taking DMARDs, even if there is no improvement at first. Some people have to try two or three types of DMARD before finding the one that is most suitable for them. Once the most suitable DMARD is found, the person will usually have to take it long term.

Immunosuppressants

Azathiaprine (Imuran®) and Ciclosporin (Neoral®) tend to be reserved for severe RA, when other DMARDs are ineffective or inappropriate. They tend to be last line as they have many potential serious side effects, mainly due to their suppression of the immune system.

Biological treatments

Biological treatments are a newer form of treatment for RA. They include TNF-alpha inhibitors (etanercept , infliximab, adalimumab and certolizumab), rituximab and tocilizumab. Etanercept (Enbrel®) and adalimumab (Humira®) are most commonly prescribed biological treatments for RA in Ireland.

In general, use of biological agents is reserved for people with moderate to severe active RA where conventional DMARDs have failed. They are usually taken in combination with methotrexate or sometimes with another DMARD. They work by stopping particular chemicals in the blood from activating the immune system to attack the lining of the joints. They are given by injection.

Side effects from biological treatments are usually mild and include skin reactions at the site of injection, infections, nausea, fever and headaches. They should be used in caution in people who have had tuberculosis (TB), septicaemia and hepatitis B in the past. There is a slight risk that biological treatments can reactivate these conditions and, in rare cases, trigger new autoimmune problems.

Prescription only

All the above medication discussed above apart from paracetamol and Diclac Gel are only available on prescription. In fact, many of the medicines including DMARDs and biological treatment must only be given under the supervision of a rheumatologist.

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