Editorial

Managing arthritis and vascular disease – a rheumatology perspective

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Arthritis and vascular disease are both very common. Arthritis is often treated symptomatically with non-steroidal anti-inflammatory drugs (NSAIDs), but these drugs can complicate the management of hypertension and congestive cardiac failure. NSAIDs can induce hypertension and cardiac failure in predisposed patients and they can interact with antihypertensives and diuretics. NSAID use can also cause renal impairment, particularly in patients taking diuretics and ACE inhibitors. A lack of functional renal reserve predisposes to this problem. It is important for prescribers to remember these unwanted effects of NSAIDs and therefore monitor blood pressure, watch for increased weight and leg oedema (signs of fluid retention) and check renal function. This monitoring is especially important in the elderly, since cardiac and renal function decline with age.

In patients who have hypertension that is difficult to control, or poor cardiac function or poor renal function (estimated glomerular filtration rate less than 60 mL/min/1.73 m^2), or some combination thereof, it is best to avoid use of NSAIDs. The pharmacological actions of NSAIDs militate against effective management of these problems. Usually an alternative treatment for arthritis is available.

In this issue…

For many children their first encounter with the health system is a painful one. As poorly managed pain in childhood can lead to later avoidance of healthcare, John Murtagh tells us how to minimise the pain of procedures, including immunisation.

The immune system is the target of the new immunosuppressants discussed by Peter Pillans and Paul Trevillian. Immunosuppressants are among the drugs that Fin Zheng Jun Cai, Les Cleland and Michael James say are more appropriate than non-steroidal anti-inflammatory drugs in the early stages of rheumatoid arthritis.

Cancer treatments can affect the immune system, but they have other unpleasant adverse effects such as xerostomia which is reviewed by Ian Olver.

Osteoarthritis is the most prevalent form of arthritis and is increasingly common with advancing years. NSAIDs are used in osteoarthritis for symptomatic relief but have not been shown to retard the anatomical progression to joint failure. Recognising that the usefulness of NSAIDs is limited to analgesic effects helps dampen the enthusiasm of patients for their use, especially when coupled with warnings about the serious and potentially life-threatening adverse effects. These include upper gastrointestinal events and the increased risk of thrombotic cardiovascular events. The risk of these complications is likely to be influenced by an NSAID's half-life and selectivity for the isoforms of cyclo-oxygenase (COX). Drugs with a higher selectivity for COX-2 have a greater risk of cardiovascular adverse events.

The practical limitations of NSAIDs in osteoarthritis help redirect the prescriber to other analgesic options. Paracetamol is the recommended first-line analgesic. Narcotic analgesics may be useful for severe osteoarthritic pain in patients whose cardiac and renal function is compromised. The non-pharmacological therapies for osteoarthritis should not be overlooked. Exercise prescriptions can improve comfort and well-being. The focus needs to be on local exercises, that address muscle imbalances and improve or maintain the range of movement, and more general exercises that improve overall fitness without local aggravation. When indicated, and feasible from a cardiovascular viewpoint, joint replacement surgery can relieve pain, improve function and allow better overall fitness to be achieved. Improved cardiorespiratory fitness and an associated reduction in adiposity can aid blood pressure control. The natural products glucosamine and chondroitin sulfate may reduce symptoms in osteoarthritis and do not appear to compromise blood pressure control or the treatment of heart failure.[1]

In rheumatoid arthritis, NSAIDs are no longer regarded as first-line treatment, except in the sense that they are used to lessen symptoms before starting a disease-modifying anti-inflammatory drug. These drugs include methotrexate, sulfasalazine, hydroxychloroquine, leflunomide, gold sodium thiomalate, cyclosporin and anticytokine 'biological' therapies. The best results are achieved with early implementation of combination therapy with three or more drugs.[2] Glucocorticoids

are enjoying a second vogue as a means of controlling symptoms quickly during the period between starting and responding to a disease-modifying drug. The long-term use of glucocorticoids needs to be weighed against their serious adverse effects, such as their propensity to cause hypertension. When prescribing combination therapy for rheumatoid arthritis, it is important to make dosage adjustments and substitutions in order to achieve objective evidence of disease suppression and to accommodate intolerance to individual drugs or drug-related adverse events. Disease control is of paramount importance in order to reduce cumulative joint damage and the increased cardiovascular mortality[3], both of which have been shown to correlate with unsuppressed disease activity.

There is evidence that fish oil in anti-inflammatory doses can reduce symptoms in rheumatoid arthritis[4] and that fish oil (and other interventions which increase dietary intake of omega-3 fatty acids) generally reduces cardiovascular mortality.[5] Fish oil has also been shown to reduce discretionary NSAID use in rheumatoid arthritis.[4] It also has a number of favourable effects on cardiovascular physiology, including a modest reduction in blood pressure and reduced arterial stiffness.

The important practical point is that a 'need' for NSAIDs in rheumatoid arthritis can be used as a prompt for more intensive application of other therapies. This approach is especially important in patients for whom treatment of other health problems, such as hypertension and heart failure, may be compromised by NSAIDs.

Situations do arise in which it is decided that a patient with cardiovascular disease requires treatment with an NSAID when alternative approaches have failed. If possible the NSAID should be used for second-line analgesia in as small a dose and for as short a period as needed to control symptoms.[6] A short-acting drug is preferable to one with a long half-life. It is important to realise that NSAIDs can perturb cardiovascular homeostasis in ways that run counter, directly or indirectly, to the beneficial actions of drugs used to manage hypertension and cardiac failure. The combination of ACE inhibitors and diuretics with NSAIDs may be especially problematic and should be avoided, if possible. While there are no absolute contraindications to using NSAIDs with cardiovascular drugs, it needs to be recognised that NSAIDs can compromise treatments for cardiovascular disease.

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Professor Cleland and Dr James have a research interest in the health benefits of fish oil. The Royal Adelaide Hospital Preventive Care Centre distributes bottled fish oil for patient use.

Letters

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Pre-eclampsia

Editor, – I read with interest the article on biochemical tests in pregnancy (Aust Prescr 2006;29:48–52) and wish to comment on the discussion of pre-eclampsia. The author maintains that the diagnosis is based on a triad of hypertension, proteinuria and oedema, yet the Australasian Society for the Study of Hypertension in Pregnancy has issued a consensus statement which asserts otherwise.[1] While hypertension is a requirement, proteinuria (as one of a range of possible end organ effects) is not mandatory to make the diagnosis. Oedema is specifically excluded unless its onset is rapid and generalised. This is important to appreciate as severe forms of pre-eclampsia (and indeed eclampsia) can occur in the absence of the 'triad'. Furthermore, 'routine' urinalysis at each visit in low-risk pregnancies has been discontinued in many centres due to its limited value.

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