

Medicine for the Elderly Symposium

A joint symposium with the Royal College of General Practitioners held on 1 April 2011 at the Royal College of Physicians of Edinburgh

LATE-ONSET RHEUMATOID ARTHRITIS

Dr Sarah Saunders, Consultant Rheumatologist, Glasgow Royal Infirmary, Glasgow, UK

Rheumatoid arthritis (RA) is a chronic progressive inflammatory arthritis affecting approximately 400,000 adults in the UK. Although the average age of onset is 55 years, onset aged >65 accounts for 33–51% of newly diagnosed RA.

Historical literature considered late-onset RA (LORA) to be a more benign entity than RA, but more recent case series show that rheumatoid factor (RF) positive LORA and RA have a similar prognosis. In the series, 11–54 % of patients with LORA were seronegative for RF and although this is associated with a more favourable outcome, diagnosis is difficult as polymyalgia rheumatica, crystal arthropathies, osteoarthritis and paraneoplastic syndromes may present with similar clinical features. Establishing the correct diagnosis in late-onset inflammatory arthritis is also complicated by the fact that raised erythrocyte sedimentation rate, asymptomatic hyperuricaemia and RF secondary to other disease processes are common in the elderly.

Disease modifying anti-rheumatic drugs are the cornerstone of treatment in RA and should similarly be used early and aggressively in LORA, with the aim of achieving good disease control and preventing functional decline. Medical co-morbidity in the older population brings additional challenges when using immunosuppressant therapies and the risk–benefit of each treatment requires careful consideration. Education, monitoring and specialist support are key to safe prescribing in this group of patients.

Corticosteroids have an important role in improving symptoms in patients with active RA. Intra-articular steroid is well tolerated and rapidly effective in reducing pain and improving function. Oral corticosteroids have disease-modifying effects but clinical benefit diminishes over time.

SARCOPENIA – WHAT IS IT AND DOES IT MATTER?

Professor Marion McMurdo, Consultant in Medicine for the Elderly, Ninewells Hospital, Dundee, UK

Maintaining muscle function is vital for functional independence. Sarcopenia is the loss of skeletal muscle mass and strength which occurs with advancing age. It is important because it is a major modifiable cause of disability in later life.

It is common, affecting up to 50% of people >80 years, and it is strongly associated with frailty, disability and death. Sarcopenia has a major public health impact, costing an estimated \$18.5 billion in direct healthcare costs in the US. The underlying mechanisms are thought to be multifactorial and accelerated by inactivity, nutritional state and chronic illness.

Muscle mass is lost progressively with age from the fifth decade onwards, with a greater loss of type 2 (fast contraction) skeletal muscle fibres. Type 2 fibres are particularly important for brief bursts of intense activity such as rising from a chair, climbing steps or regaining posture after loss of balance. While a laboratory definition of sarcopenia has recently been agreed (low muscle mass plus either low muscle strength or low physical performance), this is of little assistance outside of research settings. General practitioners may identify slow walking speed or poor muscle strength as markers of likely sarcopenia.

The only effective intervention known to counter the effects of sarcopenia is resistance exercise training with weights. The problem with this is that many older people are sedentary and unwilling or simply unable to undertake this kind of exercise. This has triggered the search for an ‘exercise pill’ and several major pharmaceutical companies have sarcopenia firmly within their sights as a novel therapeutic target.

COMMUNITY MODELS OF SPECIALIST HEALTHCARE IN OLD AGE

Professor John Gladman, Professor of the Medicine of Older People, University of Nottingham, Nottingham, UK

The health problems in old age that may merit a specialist service include:

- Diseases: stroke or dementia
- Geriatric conditions: falls, immobility or incontinence
- Dying
- Care home residents
- The interface between acute medical units or emergency departments and the community
- High service users

Evidence is needed to justify specialist services over and above good primary care.

- Falls services have a good evidence base for preventing falls and for cost-effectiveness.
- Intermediate care (admission avoidance or early discharge, at home or bed-based) has evidence showing that patients can be safely diverted to intermediate care settings, with weak evidence of benefit, and equivocal evidence of cost-effectiveness.
- There is little evidence for interface services.
- Service options developed for care homes include care home-only practices, local enhanced service agreements with GPs, support teams and nurse practitioners. Only the latter has evidence of benefit.
- High service users were the target of the community matron scheme introduced into England, but this proved to be ineffective. A more recent revamp of this notion is the virtual ward, and this is yet to be evaluated.

Thus, some community specialist services are developing within an evidence base, and others are developing in advance of one. The role of the community geriatrician is to support the delivery of comprehensive geriatric assessment in such services, to educate practitioners and to promote evaluation.

SYDNEY WATSON SMITH LECTURE: TELOMERES IN RELATION TO HUMAN AGEING

Professor Thomas Kirkwood, Director, Institute for Ageing and Health, Newcastle University, Newcastle upon Tyne, UK

Telomeres are protective structures at the tips of chromosomes, which are understood to inhibit inappropriate unions between different chromosomes. Special difficulties attend the replication of telomeres during cell division, which are overcome by the enzyme telomerase. In most human tissues, however, telomerase is inactivated, so telomeres shorten progressively with

successive rounds of cell division. Greatly shortened telomeres trigger a permanent arrest of cell division, known as replicative senescence, and telomere shortening has been associated with ageing and increased risk of age-related diseases.

However, telomere biology and its connections with human ageing are proving to be much more complex than is generally appreciated. The observed rate of shortening of telomeres is considerably greater than can be accounted for simply by the 'end-replication problem' and the greater part of this rate comes from the sensitivity of telomeres to biochemical stresses, particularly oxidative stress. Indeed, there is evidence that telomeres act as a 'fuse' to sense when cells have experienced high levels of damage and to generate appropriate responses.

There are also strong interconnections between telomeres and mitochondria (the energy-forming organelles within cells), which point to a sophisticated cellular mechanism to detect and respond to molecular damage of various kinds.

Crude measures of the association between telomere length in circulating white blood cells and disease are also encountering a need for re-examination, with growing evidence that blood samples from very old people do not show the expected associations with age predicted from younger populations. Deeper understanding of the relationship between telomeres and ageing is likely to enable more sophisticated attempts to improve health in later life.

HOSPITAL-ACQUIRED PNEUMONIA

Professor John Simpson, Professor of Respiratory Medicine, University of Newcastle, Newcastle upon Tyne, UK

Hospital-acquired pneumonia (HAP) probably occurs in 1–2% of hospitalised patients. The uncertainty around this figure reflects variation in case mix but also a genuine lack of understanding of – and research into – HAP. Among all hospital-acquired infections, HAP is associated with the highest mortality rates.

Two main problems shroud the area of HAP. The first relates to the myriad of potential pathogens responsible for HAP, making targeted selection of appropriate antibiotics difficult. The second relates to difficulties in establishing the diagnosis. A wide variety of conditions present in a similar way to HAP. Furthermore, microbiological confirmation of infection in patients who are often elderly and frail is extremely difficult. In consequence, HAP is commonly misdiagnosed and patients commonly receive prolonged courses of broad-spectrum antibiotics – often HAP will not even be the

underlying diagnosis. This unfortunate set of circumstances is obviously suboptimal for patient care, and increases both cost and the potential for antibiotic resistance.

Today's presentation will explore these issues in more detail and will briefly consider ways in which this situation might be improved.

MANAGEMENT OF CHRONIC KIDNEY DISEASE STAGE 3

Dr Jane Goddard, Consultant Nephrologist, Royal Infirmary of Edinburgh, Edinburgh, UK

The Kidney Disease Outcomes Quality Initiative (KDOQI) classification of chronic kidney disease (CKD) into five stages based on glomerular filtration rate (GFR) has proved to be a useful tool in identifying those patients who have kidney disease, allowing targeted management to prevent disease progression and complications. It is estimated that up to 10% of the population have CKD stage 3 or higher (GFR <60 ml/min/1.73 m²) but this figure rises markedly over the age of 65.

However, the identification of CKD in the community has been based on equations that estimate GFR rather than direct measures of renal function (such as isotope GFRs). These equations can differ by up to 30% from measured values, particularly at extremes of weight and age, and there is a danger of over-diagnosing CKD, particularly in elderly women with low muscle mass, creating significant patient anxiety. Additionally, many older people will have co-morbidity that directly affects renal function. When both these factors are taken into account, it is likely that there is only a small fall-off in GFR as a function of age alone.

The presence of accruing co-morbidity with age, particularly diabetes and vascular disease, does, however, mean that a significant number of older people will have CKD and strategies need to be developed as to how and where to best manage these patients. Evidence to date suggests that the majority of patients, even in CKD stage 4, do not progress but remain within this stage, or die without commencing dialysis and can be safely and effectively managed in the community. The management is essentially that of cardiovascular risk, but it is important to note that non-diabetic CKD patients with proteinuria <0.5 g/day do not receive additional renoprotection from renin-angiotensin-aldosterone system blockade (above that achieved by blood pressure control alone) and thus these drugs are not 'required' management for all CKD.

In terms of defining who would benefit from review in a renal clinic, if we are to specify that the purpose of such

a clinic is to treat complications of CKD and identify those patients who might eventually need to discuss renal replacement, then the division of CKD stage 3 into two stages, 3a (GFR 45–59 ml/min/1.73 m²) and 3b (GFR 30–44 ml/min/1.73 m²) helps identify a group (3b) more likely to have significant consequences of their CKD (e.g. renal anaemia or secondary hyperparathyroidism). Stage 3b may also define a group at higher risk of CKD progression. However, the suffix P for significant proteinuria, which can be applied to any CKD stage, is far more helpful in identifying patients at higher risk of progression.^{1,2}

References

- 1 Conway B, Webster A, Ramsay G et al. Predicting mortality and uptake of renal replacement therapy in patients with stage 4 chronic kidney disease. *Nephrol Dial Transplant* 2009; 24:1930–7.
- 2 Scottish Intercollegiate Guidelines Network (SIGN). *Diagnosis and management of chronic kidney disease*. Edinburgh: SIGN; 2008. Available from: <http://www.sign.ac.uk/pdf/sign103.pdf>

CHALLENGES OF RENAL REPLACEMENT THERAPY

Professor Chris Isles, Consultant Physician and Nephrologist, Dumfries & Galloway Royal Infirmary, Dumfries, UK

The annual acceptance rate for renal replacement therapy in Scotland has risen from around 16/million/year in the 1970s to 110–120/million/year during the last decade. Reasons for this include increased referral rates, increased availability and improved ability to treat.

Much of the increase is accounted for by older patients in whom a treatment as demanding as dialysis was previously thought to be contraindicated. The decision to dialyse or recommend conservative treatment in older patients is often a difficult one, although recent data suggest that those with significant co-morbidities are unlikely to survive more than four to six months longer on dialysis than they would have done if treated conservatively (sometimes known as maximal medical therapy).

It is important to recognise that conservative treatment is not simply defined by a decision not to dialyse. Good conservative care comprises active disease management, for example, treatment of anaemia with erythropoietin-stimulating agents and intravenous iron, and supportive care which may become increasingly complex, such as pain relief with fentanyl and alfentanil, towards the end of life.

Those older patients who do decide to dialyse must contend with all the usual end-of-life issues facing older people, in addition to the option, denied to the rest of us, of dialysis withdrawal which effectively allows them to die at a time of their choosing.

