Primary care and neurological disorders

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Optimism is the faith that leads to achievement. Nothing can be done without hope and confidence. – Helen Keller

IN THIS ISSUE OF *Australian Journal of General Practice* (*AJGP*) we present articles on the diagnosis and management of neurological conditions. The limited capacity of the nervous system for regeneration often results in injuries and illnesses that, traditionally, have not responded to treatment.

During my medical training I met many neurologists who were very intelligent individuals drawn to the profound complexities and challenges of nervous system disorders, but who seemed, from the subjective perception of a young medical student, frustrated by the lack of therapeutic options. This perception was partly formed during a neurology rotation in the early 1990s, when I encountered many patients with multiple sclerosis (MS). I was left with the impression of a severe and terminal illness and was struck by the determination of the patients and the doctors: the patients in maintaining their independence in the face of severe disabilities, and the doctors in their role of supporting patients and researching possible cures.

As it turns out, this was just prior to the licensing of several disease-modifying agents that have since altered the treatment of MS.[1] There is still no cure for MS, but the new treatments have changed the course of the disease for some patients, who experience a decrease in relapse frequency while on treatment. It remains a debilitating illness with a reduced life expectancy, but the availability of disease-modifying agents offers some hope for patients.

We may be at a similar point for one of the most devastating and feared neurological conditions, Alzheimer's disease (AD). Currently there are no disease-modifying agents or cures for AD, and the pharmacotherapeutic options, as presented in the article by Dr Edwin Tan and colleagues,[2] are limited to anticholinesterases and N-methyl-D-aspartate receptor antagonists. While improving symptoms in the short term, they do not appear to have any effect on long-term outcomes. There are ongoing studies of disease-modifying agents that are unavailable outside clinical trials, but are of such promise that various neurological organisations worldwide are drafting proposals for a new approach to management of dementia. For example, the Edinburgh consensus,[3] published in 2017, is an attempt to prepare for the arrival of disease-modifying therapies. It details changes that will be required in the healthcare system to handle the increasing number of AD cases and the possibility of new, and probably very expensive, medical treatments. Similarly, The Lancet Neurology Commission has analysed changes that will be required to deal with both the increasing burden of AD and possible future therapies.[4]

Any disease-modifying treatment for AD is likely to be most effective in the early stages of illness, similarly to the situation with MS. This means that there would necessarily be an emphasis on identifying preclinical or early clinical disease, probably through the use of biochemical testing and functional neuroimaging. As general practitioners (GPs), we might eventually find ourselves requesting peripheral blood tests[5] and functional neuroimaging specifically for AD, and arranging appropriate disease-modifying therapy for those identified. Unfortunately, the clinical reality at present is quite different from this scenario. A diagnosis of AD remains a grim one but there is mounting evidence for secondary prevention that can slow progression, as described in the article on office-based assessment of cognitive impairment by Professor Dimity Pond.[6]

Ultimately, success in treating these progressive, degenerative neurological conditions will rely on limiting injury and repairing damage.[1] As medical practitioners situated on the forefront of primary care, GPs play a crucial part in limiting injury through the use of primary, secondary and tertiary prevention strategies. Sometimes we are simply sustaining hope for patients and their families while we await the arrival of new therapies, and I believe this is an important part of our role as doctors.

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