Autoimmune rheumatic diseases: recent advances and current challenges

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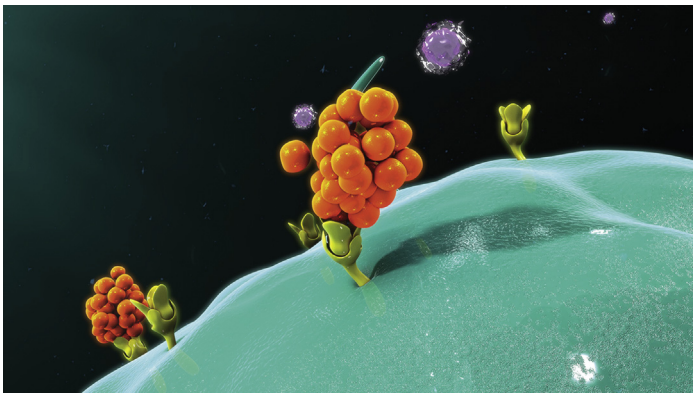
Biological disease-modifying agents are transforming the treatment of autoimmune rheumatic diseases

Over the past decade, the advent of biological disease-modifying agents has led to transformational changes in the management of inflammatory joint diseases. This has been most obvious with advances in treatments for rheumatoid arthritis (RA). However, steady progress is also being made in treating lupus and other autoimmune rheumatic conditions. In this issue of the *MJA*, several articles discuss these developments along with current challenges.

For RA, we now have a broad suite of effective therapies with a number of new products and biosimilars in the pipeline. Jones and colleagues[1] review the significant advances in our understanding of important cytokine pathways in RA, many of which are now targeted therapeutically. There is evidence for a window of opportunity in the first 6 months of disease, when therapies are both more effective and have a long term effect on disease, independent of subsequent treatment. Achieving this requires shared care between the general practitioner and rheumatologist. The expanded therapeutic options and new approaches have made disease remission a realistic goal. Current challenges in the management of RA include the lack of methods for efficiently targeting therapies to those most likely to benefit, as well as the optimal way to introduce biosimilars into clinical practice.

In contrast to RA, despite significant inroads, management of lupus and ankylosing spondylitis lags behind that for RA. Systemic lupus erythematosus (SLE) is a chronic multisystem autoimmune disease. Uncontrolled disease activity leads to irreversible end organ damage, which in turn increases the risk of premature death. Golder and Hoi[2] note that although early and sustained control of disease activity can usually be achieved by the use of conventional immunosuppressants, belimumab is the only targeted therapy approved by the Therapeutic Goods Administration. Significant work is currently underway in improving classification criteria for SLE, thereby improving diagnostic certainty, especially in the previously undifferentiated group. "Treat to target" concepts are changing trial design and clinical practice with evidence-based definition of response criteria for remission and low disease activity on the horizon. As discussed by O'Neill and colleagues,[3] while new targeted therapies are awaited, research into quality of care in SLE is a focus of research efforts through activities such as the Australian Lupus Registry and Biobank. This will shed light on areas of deficiency in clinical practice in a real world setting, with findings that have the potential to lead to system improvement based on evidence.

The past decade has seen major advances in the diagnosis and management of ankylosing spondylitis (AS) and in research into its pathogenesis. Brown and Bradbury[4] point out that, in common with most chronic diseases, management of AS is best performed by multidisciplinary teams, including medical practitioners and allied health professionals. The role of the physiotherapist is important, as exercise is central to the management of AS. Although biological disease-modifying agents are in use in ankylosing spondylitis, no current treatment leads to disease remission or halts the progression of bony ankylosis, the cause of significant morbidity. Nonetheless, improved diagnostic methods and management have led to major benefits for patients, with marked improvements in quality of life with reduced treatment-associated side effects.



Macrophage releasing cytokines

Prevention is important in the overall care of patients with inflammatory rheumatological diseases and requires co-management of patients between the rheumatologist and GP. Smoking is a strong risk factor for disease progression in inflammatory arthritis, as highlighted by Jones et al[1] for RA and Brown and Bradbury[4] for ankylosing spondylitis. In their narrative review, Golder and Hoi[2] note the significant risk of cardiovascular death in SLE and the importance of targeting traditional cardiovascular risk factors, which is also important in RA.[5] Other important areas for prevention are bone disease, including through use of anti-resorptive therapy,[2] infections through vaccination programs and cancer through screening programs.[6] As discussed by Hart and colleagues,[7] awareness that inflammatory rheumatic diseases are frequently complicated by extra-articular manifestations such as eye involvement is important in order to optimise patient outcomes.

Successful treatment of chronic conditions such as inflammatory arthritis is dependent on the participation of patients in their care. Those with inflammatory arthritis currently have unmet needs that preclude optimal disease and patient-centred outcomes. Chou and colleagues[8] argue that although the need for improved patient access to information may be met within the current system, other concerns relating to access to medical and allied health care may require more creative, fundamental changes to the models of care available.

The transformational changes in the treatment of RA over the past decade provide a beacon of great hope for those with autoimmune rheumatic diseases. Although challenges remain, the combined

Monash University, Melbourne, VIC. *Guest Editor, *MJA* Lupus and Rheumatology issue. flavia.cicuttini@monash.edu • doi: 10.5694/mja17.00047

approach of strong basic laboratory, clinical and epidemiological research informed by patient needs provides great optimism that the next couple of decades will see continued improvement in outcomes for our patients.

Competing interests: No relevant disclosures.

Provenance: Commissioned; not externally peer reviewed. ■

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1 Jones G, Nash P, Hall S. Advances in rheumatoid arthritis. *Med J Aust* 2017; 206: 221-224.

2 Golder V, Hoi A. Systemic lupus erythematosus: an update. *Med J Aust* 2017; 206: 215-220.

3 O'Neill S, Morand EF, Hoi A. The Australian Lupus Registry and Biobank: a timely initiative. *Med J Aust* 2017; 206: 194-195.

4 Brown M, Bradbury LA. New approaches in ankylosing spondylitis. *Med J Aust* 2017; 206: 192-194.

5 Agca R, Heslinga SC, Rollefstad S, et al. EULAR recommendations for cardiovascular disease risk management in patients with rheumatoid arthritis and other forms of inflammatory joint disorders: 2015/2016 update. *Ann Rheum Dis* 2016; 0: 1-12.

6 Singh JA, Saag KG, Bridges SL Jr, et al. 2015 American College of Rheumatology Guideline for the Treatment of Rheumatoid Arthritis. *Arthritis Care Res* 2016: 68: 1-25.

7 Hart C, Ferdinands M, Barnsley L. Ocular complications of rheumatic diseases. *Med J Aust* 2017; 206: 224-228.

8 Chou L, Briggs AM, Wluka AE. Patient-centred management of inflammatory arthritis: more than just disease control. *Med J Aust* 2017; 206: 196-197. ■