

GUEST EDITORIAL

BIOLOGIC THERAPIES IN ALLERGIC DISEASE

Biologics are 'large molecules typically derived from living cells'; they are used in the treatment, diagnosis or prevention of disease. Despite the complexity of manufacture and the high costs involved, more than 200 biologic medicines have been brought to market around the world. In fact, the development of biological drugs is accelerating: in 2017, approximately 30 per cent of all new chemical entities approved by the US Food and Drug Administration (FDA) were biologics.¹



Biologics include monoclonal antibodies, DNA vaccines, therapeutic and fusion proteins, and small interfering ribonucleic acids (siRNAs) and are used in almost every discipline of medicine:

- For the immunologist, they fascinate: many target immune receptors and ligands; most of those commercially available are monoclonal antibodies. Biologics themselves are antigenic, and much fundamental human immune pathway biology has been elucidated through their clinical application.
- For the clinician and allergist, they offer new hope for treating many severe disease phenotypes, but, frustratingly, all too often they seem to remain unaffordable and out of reach.

This final edition of the journal for 2018 brings you a collection of excellent review articles covering state-of-the-art use of biologic therapy for allergic and selected rheumatological disorders. It also includes a discussion of the 'elephant in the room' - ethical access to biologic therapies in South Africa, a low middle-income country (MIC). Two illustrative cases demonstrate both the benefits and the complexities of managing biologic therapies.

Dr Waheba Slamang and Prof Chris Scott from the Division of Rheumatology, Department of Paediatrics, University of Cape Town, head up this edition with an excellent article that orientates us to biologics in the context of autoimmunity and autoinflammation. They provide a convenient summary table of specific biologics and their immune targets, and an equally useful figure that illustrates where different biologics may act on the immunopathogenesis of complex disease.

Dr David Masuku and Prof Richard van Zyl-Smit of the Division of Pulmonology, Department of Medicine, University of Cape Town, shift the focus to atopic disease and the life-threatening issue of severe asthma. Importantly for our setting, where access to biologic therapy is limited, they highlight the work-up and management of uncontrolled asthma before deciding on the use of a biologic, before considering what is available and in the late stages of clinical development. Similarly, Dr Thuraya

Isaacs of University of Cape Town Private Academic Hospital and Profs Carol Hlela and Rannakoe Lehloenya of the Division of Dermatology, Department of Medicine, University of Cape Town, discuss the step-wise management of atopic dermatitis (AD) and approved and promising biologics for AD. The immune targets of novel biologics for both of these diseases highlight the newer cytokines that are important in allergic pathogenesis, such as TSLP, IL-31 and IL-22.

Dr Sipho Ntshalintshali and I, both from the Division of Allergy and Immunology, Department of Medicine, University of Cape Town, present an article on the morbid condition of chronic spontaneous urticaria (CSU). Practitioners dealing with this heartsink condition are offered new hope by the application of biologics. We have attempted to describe in detail the process for securing funding for therapy and also the obstacles to doing so. We include a helpful figure on the latest thinking about CSU pathogenesis that we hope will be of interest to our readers.

Following this article, Drs Zandile Spengane and Riyaadh Roberts and Prof Rannakoe Lehloenya and I present a complex case of urticarial vasculitis that we managed in our multidisciplinary clinic. We certainly learnt a lot from this experience, both about the treatment of urticarial vasculitis and about the possible associations between omalizumab and pulmonary embolus. We hope this case helps you to improve your practice as it has ours.

A second case report by Dr Ashley Jeevarathnum and Profs André van Niekerk and Robin Green of the Division of Pulmonology, Department of Paediatrics, University of Pretoria, details a success story about accessing international standard-of-care biologic therapy for a young woman with hereditary angioedema (HAE). The case illustrates the challenges of caring for HAE patients during pregnancy and the absolute necessity for biologics.

The ethics article for this edition is an excellent offering from Profs Bridget Hodgkinson and Marc Blockman of the Divisions of Rheumatology and Pharmacology at Groote Schuur Hospital. They discuss strategies for and the ethics of obtaining equitable access to biologics. You will be unsurprised by the inequities that exist in accessing biologics, but the variance in the single exit pricing of the same biologic is shocking – surely the motivation for a real call to 'activism for equality'.

In addition, we have our regular occupational health and immunology articles as well as a research article to complete this issue. I hope you enjoy reading these excellent contributions to this final edition for 2018. In particular, may they help you to continue to fight for your patients' access to the best evidence-based therapies, be they non-pharmacological, small molecule or biologic.

Jonny G Peter

REFERENCE

1. Lybecker KM. The biologics revolution in the production of drugs. In: Fraser Institute. 2016.