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SIgN Immunology Seminar



Prof Robert Wallis

The Aurum Institute, Johannesburg

Advancing host-directed therapy for tuberculosis

Host
Dr Amit Singhal
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Date
Tuesday
13 October
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Time
11am – 12pm

Venue
SIgN Seminar Room
Immunos Building
Level 4
Biopolis

For the past half century, tuberculosis treatment has consisted of multiple antimicrobial drugs administered together for many months, intended to eradicate active infection, prevent emergence of resistance, and prevent recurrence. Adjunctive therapy targeting the host has historically had a minor role, limited to the use of corticosteroids in patients with central nervous system (CNS) or pericardial disease. Yet, major unmet medical needs remain for nearly all forms of M. tuberculosis infection. Improved outcomes are needed for patients with drug-resistant (DR) infections. Shorter courses of treatment are needed for both DR and fully drug-sensitive (DS) infections; recent trials indicate these will be more difficult to achieve than previously thought. More effective means of prevention are needed in highly-endemic regions, due to the contribution of progression of new infection to TB recurrence, and the growing recognition of the adverse effects of fully treated TB on long-term health outcomes, with half of all TB patients having permanent, symptomatic impairment of lung function.

Adjunctive host-directed therapies (HDT) may help address these unmet needs. Two rather contrary strategies have been proposed: reducing inflammation, and augmenting host immune antimicrobial mechanisms. Both show substantial promise in meeting unmet needs in TB, challenging the “inverted U” relationship that has been proposed to describe the effects of the host immune response in TB. This lecture will describe leading TB HDT candidates, their mechanisms of action, and the use of biomarkers to advance their development in various patient populations.