The Sir Alister McIntyre Distinguished Award for Distinguished Work in the Pharmaceutical Sciences

Gene Morse

Chair: ***The Hon Henry Lowe***

Innovation in Translational Research for Global Cannabinoid Drug Development

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The field of translational cannabinoid research and drug development includes current efforts to link clinical observations of therapeutic benefit with pre-clinical, mechanistic studies of pathophysiologic processes and pharmacologic pathways that mediate beneficial responses to cannabinoid replacement therapy. This cannabinoid research initiative is occurring concurrently with a larger effort to accelerate drug discovery and development by reorganizing the biomedical research infrastructure. Rather than using traditional approaches, there is a new emphasis on rapidly moving new research findings from "bench-to-bedside" that utilizes multidisciplinary, team science. In the case of cannabinoid science, "bench-to-bedside" is a highly active research area, however, there is also a "bedside-to-bench" component based on observational clinical experiences that have accumulated, suggesting that cannabinoid replacement therapy may provide benefit for patients with diabetes, peripheral neuropathy, chronic pain, psychiatric disorders, substance addiction and cancer.

The availability of medicinal marijuana has emerged in the Unites States of America on a state by state basis with patients being able to access cannabinoid therapy on the recommendation of a physician stating that the patient would benefit from medical marijuana. This growing access has created an excellent opportunity to obtain individual responses, patient safety outcomes, pharmacokinetic information and long-term use patterns. The simultaneous monitoring of "open access" can also benefit the more traditional drug development approach by adapting both pre-clinical research and dose optimization during Phase I studies and identifying key drug-drug interactions that need to be completed prior to a new drug application.

Planning for a global cannabinoid drug development programme will require integration of classical and innovative strategies. These include disease models, individual genomic characterization and new formulation strategies, such as nanomedicine, that deliver drug to cellular and tissue targets and offer an opportunity to optimize therapeutic benefit while minimizing drug toxicity. Global cannabinoid drug development will also require academic collaboration, an awareness of indigenous medicine use, geographic co-morbidities, fiscal constraints and disparities in regional healthcare systems.

Previous Awardees

Professor Jean-Philippe Assal	(Switzerland)	1999
Professor Harry Keen	(UK)	2000
Professor Jasbir Bajaj	(India)	2001
Professor Phillip James	(UK)	2002
Dr Richard Kahn	(USA)	2003
Dr James Gavin, III	(USA)	2004
Dr Alexander Kalache	(Brazil)	2005
Dr Jean Yan	(Switzerland)	2006
Professor Jean-Marie Ekoe	(Canada)	2007
Dr Alberto Barcelo	(USA)	2008
Dr Robert Gallo	(USA)	2009
Dr Prakash Gupta	(India)	2010
Professor Lloyd Johnston	(USA)	2011
Professor Brian Berman	(USA)	2012
Professor Martin Gillis	(Canada)	2013
Karsten Dreinhöfer	(Berlin)	2014
Rainford Wilks	(Jamaica)	2015