



The Influence of Core Patient Values on Research

Does the review and application of scientific evidence advance clinical practice and enhance patient care? In the final session of 2017's Research Grand Rounds attended by over 60 members of the research and medical community, we delve into the research fields of pharmaceutical and medical laboratory sciences, and explore the latest development and issues facing these allied health sciences. Our speakers, further expound on the application of evidence-based practice (EBP) that has been increasingly integral in the health system over the past several years, and demonstrate using evidence-to-guide practice supports effective practice.



Dr Lim Tze Peng, Senior Principal Pharmacist Researcher, Pharmacy, Singapore General Hospital, Adjunct Assistant Professor, Medicine Academic Clinical Programme (ACP), SingHealth Duke-NUS AMC and NMRC 2017 Transition Award recipient opened the session with a presentation on Fighting the Superbugs. In his presentation, Dr Lim shared his ongoing journey in infectious diseases research; beginning with the latest developments and issues faced such as emerging cases of antibiotic resistance and superbugs, spiralling patient costs, and a lack of production of gram-negative bacteria specific antibiotics. These issues drive the pressing need for the focus of research on review of evidence in the form of clinical guidelines, systematic reviews and evidence summaries to arrive at recommendations to guide health professionals in practice. According to Dr Lim, the situation is so severe that “by the year 2050, we will potentially have more patients dying from bacterial infections as compared to the number of deaths attributed to cancer.”

Dr Lim proceeded to discuss the usage of guided antibiotic combination therapy as a means of combatting these issues. He explained his ongoing laboratory processes and research aims for the future – to create more efficient, highly automated systems for testing the efficacy of combination therapy, as well as possible future research avenues that can assist in the implementation of recommendations to advance clinical practice. He concluded by highlighting the importance of Evidence-based medicine in research, stating that “EBP is a culmination of best research, core patient values, and clinical expertise. All of which work in tandem to bring about the best EBP. This should always be a constant, iterative process.”



The next presenter, Dr Ma Dongrui, Senior Medical Laboratory Scientist, Department of Neurology, Singapore General Hospital, then took over to present on a study of multiple system atrophy (MSA) using induced pluripotent stem cells (iPSC). Dr Ma began with an overview of MSA, which is an adult-onset, fatal neurodegenerative disease which shares similarities with Parkinson’s disease. He shared the current landscape and challenges faced with regards to the disease; the lack of specific early diagnosis markers for patients, and how current therapy can only offer symptomatic relief as no neuroprotective drugs or neurorestorative approaches are available. A key factor currently setting back research thus far has been a lack of a suitable human MSA model.

Dr Ma subsequently introduced iPSCs, which have the potential to bridge the gap with their ability to differentiate into multiple somatic cells. While they have the potential to serve many various avenues, their unique nature makes them especially valuable for disease modelling. Neurological diseases are a common cause of critical illnesses and in ongoing efforts to improve outcomes for patients suffering from these diseases, evidence-based practice is necessary to enhance care. Additionally, current genome editing technology has been developed to correct patient-derived iPSCs. Dr Ma explained how iPSCs are utilised as part of his ongoing investigation into MSA through a combination of MSA patient-iPSC generation, neural induction and differentiation, and his MSA disease model. Both speakers took questions from the floor and answered queries from participants regarding their research outcomes and shared further knowledge.



About Research Grand Rounds (RGR)

Held every two months on Wednesday at lunch-time, RGR showcases the achievements of researchers from the AMC, serving as a knowledge exchange and community engagement platform. For more information, please visit <http://research.singhealth.com.sg>.

About Joint Office of Research

With its key objective being to accelerate the discovery and development of diagnostic tools, drugs and therapies that would translate into better prevention, diagnosis and treatment of diseases, the Joint Office of Research works seamlessly to identify and harness talent, support projects with state-of-the-art resources and synergise expertise across the SingHealth Duke-NUS Academic Medical Centre.

This bulletin is brought to you by SingHealth Office of Research

To be added to the mailing list or to submit your event, email office.research@singhealth.com.sg.