



Royal College of Physicians

Dr Alex Lyon Biography

Dr. Alexander Lyon is a Senior Lecturer in Cardiology at Imperial College London and a Consultant Cardiologist at the Royal Brompton Hospital. Alex studied medicine at Oxford University where he gained a first class degree, and studied for his PhD thesis in myocardial gene therapy at Imperial College London with professors Philip Poole-Wilson and Sian Harding. He continued his gene therapy research during a postdoctoral research year in the laboratory of Roger Hajjar at Mount Sinai Hospital in New York.

His clinical interests are in the field of heart failure, chemotherapy cardiomyopathy and the cardiovascular complications of modern cancer therapies, Takotsubo syndrome, and the development of novel therapeutics including gene therapy for chronic heart failure.

Alex was appointed to the board of the Heart Failure Association of the European Society of Cardiology (HFA) in 2016, and is the current chair of the HFA study groups for Cardio-Oncology and Takotsubo Syndrome. Alex is the clinical lead for the Cardio-Oncology service at the Royal Brompton Hospital since 2011, specialising in surveillance and cardio protection from modern cancer drugs, risk stratification and treatment of all cardiac complications of cancer treatment. Alex is president of the British Cardio-Oncology Society (formerly the UK Cardio-Oncology Consortium) and he is the cardiology advisor to Macmillan Cancer. Alex has published 106 scientific papers in peer-reviewed journals and is an associate editor of the European Journal of Heart Failure.

Alex was the UK national lead investigator for two gene therapy trials for chronic heart failure (CUPID2 and SERCA-LVAD), which are the first gene therapy trials for heart failure in the UK. He also has an interest in cell and tissue therapies and is a co-investigator in the BHF Centre for Cardiovascular Regenerative Medicine at Imperial College and continues research in the fields of heart failure, Cardio-Oncology, Takotsubo syndrome and gene therapy.

Presentation Summary

Topic: Cardio-Oncology

The major advances in options for cancer therapy has resulted in significant improvement in long-term survival for many forms of cancer, but also has result in untoward side effects associated with treatment. One such complication that is increasingly being recognized is the development of cardiovascular complications including cardiomyopathy and clinical heart failure. Whether a previously other healthy person from a cardiovascular perspective develops cancer therapy related cardiac dysfunction or a high-risk cardiovascular patient requires cancer therapy, the team of oncologists and cardiologists must be better equipped with an evidence based individualized approach to care for these patients across the spectrum.

Although the toxicities associated with various cancer therapies are well recognized, limitations to our understanding of the appropriate course of action remain. In this respect, enhanced risk prediction, surveillance strategies, and better prevention and treatment algorithms are required. I will discuss the pathophysiology, evaluation, prevention, and treatment of cancer therapy related cardiac dysfunction, including novel molecular targeted pathways and the growing medical subspecialty of cardio-oncology.