CHEST

Giants in Chest Medicine

Paul M. O'Byrne, MBBCh, FCCP

VIDEO

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"It's the best job in the world." So spoke Professor Paul O'Byrne regarding his view on a career in academic medicine. Many of us would agree that it is the best job in the world and would add that Professor O'Byrne may, in fact, be one of the best role models in the world for this particular career pathway. He epitomizes the "phenotype" of a successful academic physician. He has made numerous important bench and translational research discoveries and has mentored countless young investigators, many of whom have gone on to successful careers themselves. He continues as an excellent clinician and has, on top of all of this, successfully risen through the ranks of academia to the ultimate position of Dean of the School of Medicine at McMasters University in Hamilton, Ontario. Paul O'Byrne's career reaches the lofty realm of quadruple threat… where few have been able to go, and all along the way, he has remained a genuine human being, a gentleman, and, to many, a friend.

Paul M. O'Byrne, MBBCh, FCCP

Given this background, it is not surprising that the research accomplishment Professor O'Byrne is most proud of relates to his work (with others) that identified inflammation as a critical element of asthma pathobiology. This paradigm-shifting link opened the door to the most successful (and safe) asthma antiinflammatory treatment yet identified, the inhaled corticosteroid (ICS). The use of ICSs has transformed asthma care across the world and substantially impacted global asthma mortality. Professor O'Byrne has been a tireless promoter of their use, personally and through his important contributions to national and international asthma guidelines.

However, going beyond the "big picture" that asthma is an inflammatory disease, Professor O'Byrne has specifically identified several immune inflammatory pathways that contribute to asthma pathophysiology. These studies have primarily arisen from his development of the human asthma model of inhaled allergen challenge. This model stimulates an allergen-induced airway reaction, manifested by both an immediate fall in FEV_1 and a delayed fall in FEV_1, which bears some resemblance to chronic asthma. Allergen challenge systems have been used to study the cells/mediators associated with the various

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ADDITIONAL INFORMATION: See video interview of Dr O'Byrne online at journal.publications.chestnet.org.

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components of the allergic asthmatic reaction. Adding the unique analysis of bone marrow cells allowed compartmentalization of the immune/cellular responses. Identification of some of these cells/mediators then prompted drug development trials of both specific and nonspecific inhibitors to test both their potential for efficacy and their biological impact. His group, including his colleague and former mentee, Gail Gauverau, PhD, has studied a range of compounds, some successful and some less successful, in this system. Their recent study using a monoclonal antibody to thymic stromal lymphopoietin in this system produced extremely promising data that were published in the *New England Journal of Medicine,* with a drug now moving forward into phase II studies. Professor O'Byrne has also been intimately involved with the development of other highly successful drugs, including leukotriene-receptor antagonists and ICS/long-acting beta-agonist combinations. Importantly, his laboratory helped to resurrect anti-interleukin-5 approaches to asthma treatment (now approved by the US Food and Drug Administration) from near death through another highly impactful paper published in the *New England Journal of Medicine*.

On a personal note, I have known Professor O'Byrne for 30+ years. He has always served as an inspirational role model for me. During my formative years, I was a bit of an "oddball" in that I began my career by doing primarily human-based research studies. Not so many folks were as committed to that area as I was, yet Professor O'Byrne was. Indeed, he was successful at it! He always was, and is, willing to lend an ear to my current struggles, whatever they are, and offer guidance. He is never condescending and, if anything, his humility is in itself inspirational. I truly believe that the advice he offers in his video that you do not have to be brilliant but you do need persistence to be a successful medical researcher is one of the most important pieces of advice any junior investigator can hear. Obviously, if you are reading this commentary, it is likely you are "well above average" in intelligence, and Professor O'Byrne is most likely in the upper tiers of intelligence. However, his humility and humanity shine through in comments like these and make them all the more meaningful. Paul is indeed a genuine human being who loves global politics, golf, and good food (and wine) and has great stories to tell along the way.

I know I am but one of many many people who have been helped by Paul over the years. Partly thanks to him, I too have been able to reap the benefits of academic medicine, including being surrounded by great colleagues, opportunities to mentor young people, and feeling as though I am a member of a global community. Perhaps, most importantly, the academic medicine/physician scientist researcher has an opportunity to change the way people think about human disease, treatments, and outcomes. It is clear that Professor O'Byrne and his work have accomplished that. I encourage all to view the interview to hear Paul's words of wisdom (Video 1).

Suggested Readings

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