

Prof. Alyn Morice: the etiology, diagnosis and treatment of cough

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Prof. Alyn Morice (Figure 1) is the Professor of Respiratory Medicine, Head of Medicine, Hull York Medical School, University of Hull.

Professor Morice qualified at Cambridge University and after House jobs in London, he undertook research (MD) into the pharmacology of asthma at St Mary's Hospital. As Clinical Lecturer at Addenbrooke's Hospital, Professor Morice developed his interest in cough, demonstrating cough hypersensitivity caused by ACE inhibitors. In 1989 Professor Morice was appointed as Senior Lecturer in Sheffield developing a Pulmonary Vascular service and the first UK Cough Clinic. In 1998 Professor Morice was appointed to the Foundation Chair in Respiratory Medicine in Hull University (now part of Hull York Medical School). He has led the European Respiratory Society and British Thoracic Society Taskforces on Cough.

We had an interview with Prof. Morice in the 1th International Cough Conference. Prof. Morice gave a wonderful speech on "Developing antitussives: the clinician's pipeline—what do we need?" topic. This interview is the expansion of Prof. Morice's speech.

JTD: *You are excellent in the diagnosis of the cough clinically. So, would you please share with us how to identify and differentiate the cause and the progress of the cough at early stage?*

Prof. Morice: The patient comes to you because he is really troubled by the symptoms. The patient will identify you rather than you go out and find the patient. The patient will beat the path of your door. Many of my patients come from Europe and I also have emails from America because patients have difficulties in the diagnosis and treatment of the cough worldwide. Many patients suffer because the doctor cannot understand the condition. Many patients come to see me and so I have very long waiting line. And the patient is crying with frustration and wanting an explanation of what is wrong with the cough. Therefore, over my years of experience, I realized that the ways of trying to find a



Figure 1 Professor Alyn Morice.

diagnosis of cough, like some speakers said today, is wrong. What we should do is just to say they have cough and cough hypersensitivity. The symptom of cough is usually caused by a high sensitivity in throat, larynx and this is due to the nerves' hypersensitivity. So people cough because of increased sensitivity to a stimulus. The way I explain it to patients is that if you get burnt on your skin, you blow on it and it hurts. And patients will have hypersensitivity in larynx. Therefore, if you have cough/cold or virus, you will be very sensitive here and if you go out into cold air, you start coughing. That is the hypersensitivity of your nerve causing the cough.

JTD: *You just mentioned about the environmental factor to cause cough, and as the hazy weather becomes heavier in China, what is the role of such environmental factor to cause cough?*

Prof. Morice: When you have the hypersensitivity, you

will cough much more because of the environment. So the environment doesn't actually cause the cough but the cough is set of in the environment.

JTD: *What about the smoking?*

Prof. Morice: Smoking has two roles, if you continue to smoke, you cough more. So, chronic smokers cough much more frequently than non-smokers. But actually, a cigarette will damp down the cough effect. So, many smokers will cough a lot when they wake up in the morning. And a cigarette will damp down the cough. So, the cigarette itself suppresses the cough.

JTD: *The problem with chronic cough is that it may arise from several different parts of the body, not just the chest. So, how to identify it?*

Prof. Morice: That is the big problem because the patient will see a chest doctor, gastro-doctor, larynx doctor... To identify the patient is easy but to understand what is wrong—that is the problem. They almost all have reflux. The problem is that doctors understand only acid reflux. And it seems that nobody knows or understands the non-acid reflux, which is the underlying cause of chronic cough. So very few of them will have the symptom of heartburn, but almost all of them have reflux which is not acid, and that's why their voice goes. You may think they have rhinitis or post-nasal drip as the Americans call it, but it's not, it's a form of reflux that goes into the nose and larynx. When you inhale this gaseous reflux, it causes cough and it is the cause of other lung diseases like pneumonia or fibrosis.

JTD: *I know that your topic is related with drugs, and we are all interested in drug-development to treat the cough, so is there any effective drug to treat it?*

Prof. Morice: Well, my own study shows that morphine, but not at high-dose, very low-dose of morphine in about the third of the patient, can make them very much better. Therefore someone with the bad cough should try a low-dose of morphine and if it works they can continue on it, because it's only a very low-dose. We have many patients on just 5 mg of morphine a day. It's too low to cause many side-effects. It is only constipation a bit. But it's only about third of patient. If they have an asthma-like syndrome with a steroid response we can give them montelukasts which is much better than other treatments.

JTD: *This is the first international cough conference, so, is there any significance to co-operation among the countries?*

Prof. Morice: Absolutely. Well, with so many things in the conference, it is the persons who you meet in the conference that matters. I have heard of a lot of very good speakers. It's also about meeting people and talking to them. So we have been talking all last night and today with many other friends from Japan, China and Australia. I will converse with them and that's why I came here.

JTD: *So what is the biggest barrier to international co-operation? Do you think the language is the biggest problem?*

Prof. Morice: Well we all speak in English, so it's not a problem to me. I am very lucky that I am English.

JTD: *But for many developing countries like China, they have many difficulties in language.*

Prof. Morice: I understand that, but you have to choose a language, and in ancient world it used to be Latin, but now it's becoming English perhaps because of the Americans and Hollywood. But at least English has a quiet a good useful language for science. I mean when I speak to Belgium Thoracic Society, there are French speaking people and Dutch speaking people, and they all speak to each other in English. So it's a language which we can use together. I admire Chinese speakers today, they are able to speak English, that's fantastic, and I can't speak Chinese.

JTD: *Where do you see the future of cough clinical research is leading?*

Prof. Morice: In future we hopefully, begin to have some drug development.

And we are just getting some drugs now, which are very hopeful to come to the clinic and get rid of the sensitivity, because that's the key. Thus we have to have drugs to remove the hypersensitivity. There is one that has been called AF219 which appears to tackle the sensitivity and has a dramatic effect on clinical cough.

JTD: *What will you focus on your next research?*

Prof. Morice: My next research for cough is that for many years we have been doing the cough challenges, making

people cough with citric acid, but these are not very good. I think we have found a new challenge which will tell us exactly when people are hypersensitive, using that challenge I hope we will be able to find the drugs that will work on the sensitivity.

JTD: Would you please share with us your research experience and what do you think the quality to become a good researcher?

Prof. Morice: The main quality is curiosity. You don't need to be very intelligent, and you don't need excellent training. But what you really need is the desire to learn new things and do experiments. I always want to do experiments, and what you have to do is the right question and design the experiment to answer the question.

JTD: You are very considerate doctor, so what do you think of the relationship between doctor and patient?

Prof. Morice: To me the most important thing is the pleasure of talking with the patients, particularly as I am able to explain bad cough to them, where other people haven't able to explain. The relief they get for me being to explain like why they cough when they lie down, why they cough when they talk is enormous. They say the relief is fantastic. So the ability to communicate with the patient is the most important. Many doctors tell the patient what to do and whereas they should sit and just talk with the patient.

JTD: My last question is as we know both the clinical and research work are difficult, and should pay many efforts. So how to balance the clinical jobs and research jobs?

Prof. Morice: Patients are our best experiments. They will come to us and say this is and that is wrong and you have to think why. So they are the practical experiments. You can do experiments in animals but that means little or nothing. To finish up I will tell you why I got into the cough. A patient came when I was doing hypertension clinic and she said she had a cough, but I couldn't work out why there is a cough. But the patient said perhaps it's because of tablet that makes her cough, so, I stopped the medicine and the cough went away. When she started the tablet again the cough came back. The tablet was captopril, the first ACE-inhibitor, and now we know that it does cause cough. I am still not certain why, but it's been 30 years I have been investigating this. So the patients are not to be balanced against this. The patient is the one to give us the clues, the information.

JTD: Thank you very much for accepting our interview and nice talking with you!

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