

New studies address urgent need for early COPD diagnosis

Lawrence Grouse

Executive Director of the International COPD Coalition, Executive Director of the ARIA Initiative, Department of Neurology, University of Washington School of Medicine, USA

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New approaches to COPD diagnosis are being developed that can identify the disease not only earlier, but more cheaply as well, according to dramatic studies presented November 6 and 7 at the 2nd World Conference of COPD Patient Organizations in Shanghai, China (Figure 1). The conference, organized by the International COPD Coalition, brought together representatives of COPD patient groups throughout the world around the theme "Improve COPD Patients' Lives."

ICC Co-Chair Prof. Nanshan Zhong reported how Dr Pixin Ran and his colleagues and collaborators, funded by the Chinese Health Ministry, have shown that simple screening tests can identify early COPD with 80% accuracy. The team's approach uses peak flow meters to assess lung function of high-risk patients in the community, with GPs carrying out the tests.

"Early COPD is different than COPD that is far along," explains Prof. Zhong, the pioneer of respiratory disease whose global leadership in improving the diagnosis and care of COPD and asthma is only surpassed by his remarkable public health achievements in conquering the SARS and H1N1 epidemics. "In early COPD, the airway obstruction is much more reversible, and treatment can slow the destruction of lung capacity. For these patients we can try to eliminate the toxic inhalants that cause the COPD, with smoking cessation, for example. We have evidence that treatment can improve and extend patients' lives as well. This is not the case when COPD is diagnosed later in its course."

Prof. Zhong says that once early COPD is identified, both

GPs and pulmonologists should monitor patients' breathing using peak flow meters, hand-held spirometers that can measure FEV1 volumes, and the more-precise office spirometers when these are available. "By measuring the change in their breathing capacity, it will help us to assess their current therapy and decide on future treatment," he says.

Another advance in early COPD diagnosis was presented at the ICC conference by Prof. Chunxue Bai. His group has found that low-dose computed tomography (CT) lung scanning can diagnose early COPD when only about 10% of the lung function is affected. The pathological effect of COPD on the lung can be determined from the tissue images in the scan sections using a calculation called the emphysema coefficient.

"In our studies among Chinese patients, low-dose CT scans were able to identify earlier disease compared to spirometry," Prof. Bai explained. "Spirometry cannot diagnose the airway obstruction of COPD until about 30% of lung function is impaired. CT scans can confirm screening tests for COPD, and if additional studies confirm our findings then CT scans could become the new gold standard of COPD diagnosis." In Prof. Bai's study, the cost of each CT examination was only about 300 RMB (45 US dollars).

At the World Conference, the ICC awarded Dr. Zhu Chen (Figure 2), the Chinese Health Minister, its ICC Achievement Award in recognition of the ministry's increased emphasis on COPD through funding COPD research and care and smoking cessation efforts throughout China, including the work done by Prof. Zhong and his colleagues.

The last session of the conference was a free-wheeling panel discussion chaired by Ms. Monica Fletcher, Chair of the European Lung Foundation. When Fletcher asked the panel what they would be doing differently after hearing the dramatic new information presented in the meeting, Prof. Zhong immediately identified two points.

"First, we must all work to diagnose COPD in its earliest stage, before it is symptomatic, even before it can be identified by the usual spirometric values," Zhong said. "Second, we pulmonary specialists must form partnerships with GPs and family doctors at the community level and assist them in identifying early COPD from high-risk patient groups. We urgently need

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Corresponding to: Lawrence Grouse, MD, PhD. Executive Director of the International COPD Coalition, Executive Director of the ARIA Initiative, Department of Neurology, University of Washington School of Medicine, 8316 86th Ave NW, Gig Harbor WA 98332, USA. Tel/Fax: 253-851-8194. Email: lgrouse@uw.edu; lgrouse1@msn.com.

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Figure 1. The 2nd World Conference of COPD Patient Organizations in Shanghai, China, organized by the International COPD Coalition (A); Prof. Nanshan Zhong delivering speech on the press conference (B).



Figure 2. Achievement award to the Chinese Health Minister Dr. Zhu Chen and the Chinese Health Ministry (A); The Chinese Health Minister Dr. Zhu Chen is delivering the acceptance speech (B); Prof. Zhong talking to Prof. Bousquet (C), and Prof. Mohammad (D).

this primary care mobilization because there aren't enough pulmonologists to accomplish this life-saving effort and the cost would be too high."

"Starting tomorrow, I will work to make early COPD diagnosis become the rule in medical practice. It will give us a chance to slow the loss of respiratory function, improve quality

of life and productivity," Prof. Zhong continued. If COPD is not diagnosed until patients develop symptoms, often this means that 50% of their lung function has already been destroyed. "We can identify COPD and take action when only 10% has been affected. This could totally change their lives."

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