

## Professor Helmut H. Popper: the major challenges and potential solutions for future management of lung cancer

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Helmut H. Popper (*Figure 1*), MD, is the professor of Pathology in Department of Pathology, Medical University of Graz, Auenbruggerplatz 25, Graz 8036, Austria. Prof. Popper is a Pathologist with an additional specialization in Pulmonary and Mediastinal Pathology. He is the leader of the Research Unit for Molecular Lung and Pleura Pathology with a focus on lung cancer but also some interstitial lung diseases. Since 1986, a lung biobank was established to be used for research. He served as President of the Austrian Society of Pathology, is presently Chair of the Education Subcommittee of the European Society of Pathology and Council Member. He serves at the Editorial Board of Virchows Archiv and *Journal of Thoracic Oncology* and as a reviewer on 33 different Journal devoted to all kinds of lung diseases.

After the 2014 Central European Lung Cancer Conference (CELCC) held in Vienna, we were honored to interview Professor Helmut H. Popper, who generously shared his views on the management of lung cancer, especially on the aspects of molecular testing, liquid biopsies, lung cancer screening, etc.

**TLCR:** *Thank you very much for your great article entitled “Molecular testing in lung cancer in the era of precision medicine” contributed to TLCR’s special issue dedicated to the 2014 Central European Lung Cancer Conference (CELCC). What do you think are the main challenges and potential solutions for molecular testing on lung cancer in the era of precision medicine?*

**Prof. Popper:** The major challenges are the increasing number of molecular driver mutations in lung cancer and the limited amount of tissue. The major advantage will be to implement new technologies such as next generation



**Figure 1** Helmut H. Popper, MD, Professor of Pathology in Department of Pathology, Medical University of Graz, Auenbruggerplatz 25, Graz 8036, Austria.

sequencing into daily routine. This will enable pathologists to test for multiple genetic alterations in a given carcinoma and provide data for treatment. Since genetic changes in lung tumors can present with mutations, deletions, amplifications, and rearrangements of chromosomal material, these different changes should be evaluated by a single easily to be automated method.

**TLCR:** *What information have you learned from the Chinese-Central European Symposium in the 2014 CELCC?*

**Prof. Popper:** From this meeting, I learned that the problems are similar; prevention has to take into account additional environmental burden for the development of lung cancer, not seen in Europe. In addition, the vast numbers of patients affected in China creates much more problem to keep with management.

*TLCR: There were intense discussions in different sections of the CELCC. What still are the major controversial issues that remain to be further discussed and explored on lung cancer?*

**Prof. Popper:** Liquid biopsies will be one topic to be discussed and evaluated in scientific investigations. Our knowledge is still limited, and the practical use is not clear. Also how liquid biopsies should be implemented in the patient management system needs to be defined. Another topic is lung cancer screening: From existing programs, it looks to be very costly and the number of lung cancer cases detected at an early stage is quite low. So in my view, lung cancer prevention by anti-smoking campaigns might be much more promising.

*TLCR: Some speaker mentioned that the future treatment for lung cancer is going to be biomarker-driven therapy and immunotherapy. Do you agree?*

**Prof. Popper:** Yes, both are coming up and will be an

integral part of future patient management.

*TLCR: As you are the prominent pathologist on lung cancer, what do you think is the role of a Pathologist in the Multidisciplinary Treatment?*

**Prof. Popper:** The specialized lung cancer pathologist not only gives the diagnosis on a patient's individual cancer type, but also provides molecular data of this given carcinoma, thus providing sound data on the patients' treatment. Therefore, the pathologist acts as a member of the patients' management team.

*TLCR: Thank you very much for your valuable views and precious time.*

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