

Professor Clemens Aigner: the development and the future of lung surgery

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Professor Clemens Aigner (*Figure 1*) is the director of the Department of Thoracic Surgery and Thoracic Endoscopy, Ruhrlandklinik-University Clinic Essen. He is a professor at the Medical Faculty of the University of Duisburg-Essen (UDE). Prof. Aigner was previously a senior physician at the Department of Thoracic Surgery at the Medical University of Vienna. He is specialized in performing lung cancer surgery. In 2008, Prof. Aigner was qualified as a professor for “Advanced Techniques in Lung Transplantation”. He has received numerous prizes for his research. Once he was awarded the “Theodor-Billroth-Prize of the Austrian Society for Surgery” for the best scientific work in the field of clinical and experimental surgery. The Department of Thoracic Surgery in Ruhrlandklinik, where Prof. Aigner had been working since 2016, is one of the largest thoracic surgical departments in Germany. It focuses on studying lung cancer and oncological lung surgery.

I was honored to meet Prof. Aigner during the 4th Oriental Forum on Thoracic Surgery and the 8th Zhongshan Forum on Minimally Invasive Thoracic Surgery in Shanghai, China. I invited him for an interview and asked him to share his expert opinions on the development of lung transplantation and benefits of *ex vivo* lung perfusion (EVLP) in lung transplantation as well as the advantages and prospects of parenchyma sparing lung resection techniques. Also he has shared the future of lung cancer surgery. Below is a video interview with Professor Aigner, please enjoy (*Figure 2*).

Interview

The development of lung transplantation and EVLP technique

Dr. Aigner has much experience and terrific techniques on lung transplantation and performing lung cancer surgery. He was delighted to see the advancing techniques of lung transplantation. Nowadays, advanced techniques of various surgeries have emerged; one of the most important



Figure 1 Professor Clemens Aigner.



Figure 2 Professor Clemens Aigner: the development and the future of lung surgery (1).

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developments in lung transplantation is EVLP. This promising technique is used to recondition the initially unsuitable donor lungs. As a result, the number of acceptable donor lungs is increased, resulting in an expansion of the donor pool along with the improved postoperative

outcomes. The technologies of lobar transplantation and the use of living donation in selected cases are available now and ready to be launched. Prof. Aigner said that despite the shortage of donor organs remains a globalized problem on lung transplantation, we need to be equipped with more surgical techniques and utilize them to ensure the optimal use of the donor organs. Prof. Aigner and his colleagues are promoting the lung transplantation program by building the West German Lung Transplant Center in cooperation with the Department of Cardiac Surgery and Pulmonology.

The advantages and prospects of parenchyma sparing lung resection

During the 4th Oriental Forum on Thoracic Surgery, Prof. Aigner shared his experiences of the techniques required on parenchyma sparing lung resection in Germany, including bronchoplastic techniques and other surgical approaches. Prof. Aigner also talked about advantages and prospects of parenchyma sparing lung resection with us. Due to the same risk factors, the number of patients with reduced lung function, chronic obstructive pulmonary disease (COPD), cardiac-comorbidities in combination with lung cancer are increasing. Parenchyma sparing lung resection techniques can be provided as curative surgery with an acceptable level of perioperative risk. Besides the surgery, parenchyma sparing lung resections also act as a very important role in early diagnosis and treatment of unclear nodules.

The future of lung cancer surgery

For the future of lung cancer surgery, Prof. Aigner believed that minimally invasive techniques will remain to be the standard procedures in performing lung surgery. Video-thoracoscopy approaches, robotic techniques are expected as there is still much room for new technologies to develop.

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Surgery will still be the major method of treatment in early stage of lung cancer, whereas surgery may be combined with medicine or radiation therapies in advanced stage of lung cancer. Additionally, it is crucial for us to understand the advancement of the molecular mechanism of lung cancer. The advancements in understanding molecular biology of lung cancer will have a great influence on decision-making of surgery, selecting ideal patients, preventing recurrence of lung cancer and the development of metastatic surgery.

At the end of this interview, Prof. Aigner shared his thoughts and advices to all the medical students or resident physicians who intend to study thoracic surgery. He thought that the field of thoracic surgery can be very challenging yet rewarding. They need to be prepared for the long required operating hours and making efforts to treat the patients.

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Footnote

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