



Special series: VATS segmentectomy

In 1995, the Lung Cancer Study Group published a prospective randomized controlled study comparing lobectomy patients with those undergoing a sub-lobar resection (1). This study reported a lower local recurrence rate and a better long-term survival in the lobectomy group compared to sub-lobar resections. Ever since then, pulmonary lobectomy has been considered the standard surgical procedure for early stage lung cancer, and sub-lobar resections have remained indicated for unfit patients only. This last decade has been marked on the one hand by the launch of lung cancer screening programs with early detection of small nodules or ground glass opacities, and on the other hand by the adoption of minimally invasive techniques for anatomical resections. Both aspects revived the controversy on whether segmentectomies are indicated as intentional resections for patients with early-stage lung cancer rather than for patients with limited lung functions only. Since the historical presentation of JCOG0802 trial by Professor Asamura during the AATS 2021 (2), which reported on the first phase III trial and demonstrated the benefits of segmentectomies in terms of survival for patients with lung tumors of less than 2 cm, no doubt is permitted: segmentectomy will become the standard surgical procedure for early stage lung cancer. However, he also reported increased local recurrence rates in the segmentectomy group (12.1% vs. 7.9%; $P=0.021$) in comparison with the lobectomy group. In spite of the clear foundations afforded by his study, not all questions could be answered: pulmonary segmentectomy is a technically more difficult procedure than lobectomy, with more frequent anatomical variations, requiring deeper hilar vascular and bronchial dissection and the division of two or more intersegmental planes. This may lead to potential complications or to insufficient margins, perhaps explaining the increased rate of local recurrences.

Lack of standardization remains in terms of surgical approaches, extent of lymph node dissection, identification of intersegmental planes, identification of the tumor and oncological surgical margins to decrease local recurrence rates. In this special series, we have asked various recognized international experts in this field how they manage and perform simple or complex segmentectomies in order to simplify this surgical intervention. Of course, this will not replace learning from a mentor or visiting high volume centers, but this series will give some advice on how to safely perform VATS segmentectomies.

I would like to thank all authors for their valuable contributions to this special series and the editorial office of the *Journal of Visualized Surgery* for their support. I really believe that this special series reflects a considerable effort from numerous international colleagues, so I hope you will find it interesting and useful!

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Michel Gonzalez

Michel Gonzalez[^], MD

Service of Thoracic Surgery, Lausanne University Hospital, Lausanne, Switzerland.

(Email: michel.gonzalez@chuv.ch)

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[^] ORCID: 0000-0001-8705-4279.