

A conference at the onset of a new era

Lung cancer surgery is evolving rapidly, faster than we could imagined a few years ago. This rapid development is related to the following observations: (I) in many countries, the tumor profile has changed dramatically, with an increasing rate of ground glass opacities and cancers detected at an early stage. This evolution is partly due to the screening programs and to the strong demand from patients and their doctors to have a CT-scan; (II) when a small suspicious pulmonary nodule is discovered, the patient legitimately asks about the most effective treatment but also the less invasive one. Surgery is now competing with other treatments, in particular stereotactic radiotherapy (SBRT) or radiofrequency whose mortality is close to zero with a morbidity comprised between 1% and 2% (1). Thus, although SBRT may have a slightly higher local recurrence rate than surgical resection and lower survival, this very low morbidity may make it the technique of choice in elderly and/or fragile patients (2). In the near future, some small tumors may also be destroyed endoscopically using Electromagnetic Navigation Bronchoscopy. Engineers are actively working on it.

Driven by these developments, the dogma of "lobectomy as standard treatment" for all non-small cell lung cancers (NSCLC), regardless of patient's age and profile, is faltering. As written by Cao, some surgeons now ask themselves the question "Could less be more?" (3). Indeed, although results of randomized trials are still pending (4,5), several recent studies seem to indicate that oncology results and survival of LRTs are equivalent to those of lobectomies for early stage NSCLC (6-8), while morbidity is much lower (9), especially when the procedure is performed via a closed chest approach (10). Finally, in 2018, more and more surgeons are choosing to treat a small tumor with a sublobar resection and the majority agree that the maximum benefit of the procedure is obtained when done by thoracoscopy. The current concern is that thoracoscopic resections are particularly challenging, at least for some of them (11). So, after having had to relearn thoracic surgery with the apprenticeship of video-assisted lobectomies, surgeons must again consider learning new techniques that are much more complex and challenging than thoracoscopic lobectomies.

It is therefore not surprising that the 1st International Conference on Sublobar Resections for Lung Cancer held in Paris in January 2018 was successful. During 2 days, two hundred and thirty thoracic surgeons from 33 countries met to learn and exchange on this theme. All subjects were covered: indications, role of segmentectomies compared to other surgical treatments (wedge or lobectomies) and radiotherapy, anatomical and physiological considerations, oncological results, surgical techniques and intersegmental plan management, specific complications, not to mention clinical case discussions, video sessions and communications on current and future technologies. Technologies will indeed play an increasingly important role in our practice. Because reducing the mortality and morbidity of segmentectomies, while remaining oncological and effective, means that these procedures must be rigorous and precise. This will require greater accuracy, which can only be achieved with the help of some technologies. Examples include 3-dimensional modelisation for a better understanding of anatomy (11,12), mapping to locate a micronodule and delineate margins (13), intersegmental plane marking by techniques such as infrared imaging combined with systemic injection of indocyanine green (14). In a near future, virtual navigation inside the lung—as shown at the start-up corner during the conference, and augmented reality will enter our operating rooms and facilitate sublobar resections. In summary, for the coming years, Scott Swanson's prediction made in 2010 could take more and more reality (15): *video assisted segmentectomies could be the future of thoracic surgery*. This assertion has yet to be demonstrated by ongoing studies, but it is clear that current thinking on sublobar resections opens up an area of investigation for thoracic surgeons (16). This is reflected in this special issue of the JTD, which brings together many of the papers presented at the Paris conference.

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