Commentary on Thoracic Surgery

Incision of thoracoscopic surgery: can we and should we make it smaller?

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We congratulated Dr. Kim and colleagues for this successful single-port left upper division segmentectomy, and appreciate the efforts they made—not only on minimizing the number of port utilized, but also on shrinkage the wound down to a 2-cm for an anatomical segmentectomy (1).

Single-port thoracoscopic surgery has been proposed for a decade, despite most of them were limited to minor procedures in the beginning, however, it evolved rapidly recently, and been documented to be a feasible procedure in multi-institutional studies (2,3) with comparable perioperative results with multiport technique (4,5). The enthusiasm for single-port surgery was tremendous in Asia, and single-port approach has been adopted as a standard approach of choice for routine operation in some institutes, despite limited benefits as compared with two-port or multiport technique (6,7). With huge patient demands in Asia, the industries including the surgical robot companies had devoted into the development and refinement of the single-port instruments, all these factors enabled the talent surgeons to challenge further on their surgical technique in many different ways.

Firstly, we need to address the limitations of single-port thoracoscopic surgery especially when the wound is small. To achieve this, the operator must choose slimmer instruments or use fewer instruments whenever possible as shown in the video presented by Dr. Han; a 5-mm high definition scope with few instruments were applied, thus inevitably limited the liberal usage of instruments for dissection, traction and exposure. Of note, among all the instruments needed to complete a lobectomy, endostapler might be the most bulky one, which needs a good angle and path to complete a safety stapling. Some of these refined staplers have already come into market and should be idealistic for this purpose.

Secondly, the specimen retrieved from the 2-cm wound needs to be small enough. Specimen from segmentectomy is smaller than that from a lobe for sure, so it is quite reasonable to recommend patients with early small size, peripherally located lung cancer to have smaller wound done by segmentectomy. However, the technique for tri-segmentectomy is basically identical to upper lobe lobectomy with an incomplete minor fissure on the right, and the specimen might not be so small in an emphysematous condition. Furthermore, for some atypical segmentectomy, as apical-posterior of left upper lobe, or even some combined sub-segmentectomy, the demands for knowledge on segmental anatomy and technique are even higher. The frequently encountered anatomic variation, e.g., mediastinal type lingular artery, should be kept in mind in order to avoid mistakes and unnecessary trauma to the patient.

The third, the indications and comparison study do matters. For example, a young female with early ground glass opacities (GGO) lung cancer with lower necessity on radical lymph node dissection might be good for this approach; however, subxiphoid approach with or without needle-scope instruments might have even better cosmetic outcome and avoid the intercostal neuralgia (8).

In summary, minimally invasive surgery does not just mean to minimize the trauma outside, but also on the trauma inside in order to get patient got faster recovery, less suffer, better cosmetic results, but must under the same standard for cancer control. We expect Dr. Kim and his team are able to define the proper indication of this approach, and prove its superiority to the other operation performed with a slightly larger wound or other approaches.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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