



Uncharted territory

Waël C. Hanna

Division of Thoracic Surgery, McMaster University, Hamilton, ON, Canada

Correspondence to: Waël C. Hanna, MDCM, MBA, FRCSC. St. Joseph's Healthcare Hamilton, 50 Charlton Ave. E, Juravinski Tower, suite T2105 F, Hamilton, ON, Canada. Email: hannaw@mcmaster.ca.

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Segmental resections remain uncharted territory for majority of thoracic surgeons. While simple segmental resections (S6 and S4+5) are frequently done minimally invasively by most surgeons, complex segmental resections, such as upper lobar segments and basal segments, continue to be a big challenge for many of us. The introduction of the Da Vinci robot to thoracic surgical practice has simplified segmental resection and made it accessible to many surgeons. In this paper, Li and colleagues present a very elegant approach to right basal (S7+S8) segmental resection (1).

The authors describe a 4-port approach: 3 robotic arms and 1 assistant accessory mini-thoracotomy incision. The robotic arms are placed between the 8th and 9th intercostal space, and the procedure is done through an anterior hilar approach, with vein divided first, followed by pulmonary artery, followed by bronchus. Interestingly, the authors do not describe any dissection of the N2 nodal stations.

Segmental resections are interesting operations because they are challenging, but induce a deep sense of satisfaction when completed successfully. More importantly, patients tend to do very well after segmental resections, with very low rates of complications and early discharge from hospital. At our institution, we use a different approach for basal segment. First, we use a 5-port technique according to the completely portal robot lobectomy with 4 arms (CPRL-4) positioning (2), with two major differences from the technique describe here by Li. This obviates the need for an accessory incision and minimizes postoperative pain when all ports line up in the same interspace. Second, we start every robotic case with a posterior mediastinal dissection of lymph node stations 8, 9, 7, 4R, 2R, 11RS, 11RI and 10R. Although the tumors are usually small in

segmental resections, N2 lymphadenectomy/sampling remains standard of care for lung cancer operations. The nodal dissection also helps deliver the lung from the rigidity of the posterior mediastinum and renders the hilar dissection around the vessels much easier.

Another important component that we include routinely in every segmental resection is lung mapping with 3D computed tomography and indocyanine green near-infrared fluorescence (3). Whereas the authors describe a lesion nicely situated in the S7 and S8, it has been our experience that lung tumors do not usually obey segmental anatomy, and in many cases, lung mapping is required to confirm the position of the tumor and ensure adequate margins around it.

There is no doubt in my mind that segmental resections will become the operation of the future of lung cancer. Robotic surgeons will be at the forefront of this operation because of the augmented capabilities offered to the surgeon.

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Footnote

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