

## Evolution in surgical approach and techniques for lung cancer

To improve is to change; to be perfect is to change often.

Sir Winston Churchill (1874–1965)

We thoroughly enjoyed reading the succinct review article by Vallieres *et al*<sup>1</sup> on therapeutic advances in non-small cell lung cancer. The authors pointed out that improvements in chest imaging and use of CT for diagnostic workup and screening have led to many more small tumours, and suspicious nodules being identified. In our practice, this has increasingly changed our management and surgical approach. For example, there has been advances in

and refinement of technology to identify subcentimeter nodules intraoperatively by using preoperative CT-guided hookwire localisation, fiducial, methylene blue or radionucleotide marking.<sup>2</sup> Furthermore, the era of hybrid operating theatres will provide real time Dyna-CT soft tissue visualisation and localisation of small nodules in the lung during surgery. Not only will this aid localisation of the nodule and confirmation of nodule resection, but also provide information on the adequacy of the resection margins as well as presence of other unsuspecting new lung lesions that may have developed following the last imaging.

The surgical approach to lung resection has continued to evolve. Of note, a rapidly developing area is single-port (uniport) video-assisted thoracoscopic surgery (VATS). For over a decade, such approach has been successfully performed for wedge resection of lung.<sup>3</sup> The technique uses only one small surgical incision and holds great promises in further reducing surgical access trauma and postoperative discomfort. Furthermore, the involvement of less intercostal spaces compared with standard 3-port VATS can reduce postoperative chest wall pain and paraesthesia.<sup>4</sup> These advantages can potentially lead to quicker recovery, or even allow patients to undergo some of these procedures without general anaesthesia. A surge in demand for single port VATS wedge resection may be on the horizon, especially if more evidence emerges supporting sublobar resection for small non-small cell lung cancer tumours.<sup>1</sup>

Since 2010, single-port (uniport) VATS has extended its application to major lung resections, and is gaining in popularity across the world. Although originally limited to resection of simple small lung tumours, more recently, complex lung resections such as pneumonectomies and sleeve resections using single-port VATS

have been successfully performed.<sup>5</sup> The immediate and early results are excellent, however the long term outcomes of this approach will need further evaluation and are eagerly awaited.

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