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Commentary: Re-consult surgery for lung cancer patients? The role of resection after initial non-operative therapy.

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Central Picture Legend: Mark F. Berry, MD MHS, Professor and Thoracic Surgeon, and Nicole Lin, MD, Surgical Resident and Post-Doctoral Research Fellow, Department of Cardiothoracic Surgery, Stanford University.

Central Message: Salvage lung cancer resection after initial nonoperative management can be performed with low morbidity and improved overall survival compared to second-line systemic therapy in appropriately selected patients.

Although the role of surgery for early and even more locally advanced non-small cell lung cancer (NSCLC) stages is generally well defined, the use of resection in patients for whom operative intervention was not initially considered appropriate is significantly less clear. Surgeons historically have considered attempts at resection when patients had persistent or recurrent disease after their primary non-operative therapy (so called “salvage surgery”) to not only be associated with higher risks but also unclear oncologic benefits. Although surgery in this setting in recent years has increasingly been shown to be feasible, detailed evidence to support that practice is still somewhat sparse. Surgeons often have to rely on their own personal and institutional anecdotal experiences when making treatment decisions for this complex clinical scenario. The current study by Dunne and colleagues, published in this issue of the Journal of Thoracic and Cardiovascular Surgery, draws on over a decade of recent experience at the Memorial
Sloan Kettering Cancer Center to provide important data the thoracic oncology community can use to guide care for this complex scenario [1].

This paper shows that surgery can be an acceptable second-line choice for a highly selected cohort with recurrent, local persistent, oligometastatic, or oligoprogresive disease after initial nonoperative NSCLC therapy. The authors provide detailed information regarding pre-surgery staging and treatment, peri-operative outcomes, and long-term oncologic survival data that allows clear estimates of the risks and benefits to surgery in a variety of situations with several clinically relevant findings. First, a complete R0 resection was achieved in an overwhelming majority of the patients (88%, 105/120 patients) with low perioperative major morbidity (5%, 6 patients) and 90-day mortality (3%, 4 patients). Perhaps most importantly, the study also gives perspective on the benefits of surgery compared to systemic therapy by creating a reasonably similar cohort of patients who received second-line nonoperative treatment in the American Association for Cancer Research Project Genomics Evidence Neoplasia Information Exchange BioPharma Collaborative. Providing data regarding the potential benefit over continued non-operative therapy is a novel finding compared to previous studies that have examined the safety and efficacy of salvage surgery after chemoradiation [2, 3, 4, 5, 6].

The landscape of therapy and outcomes for NSCLC has been changing for the better in recent years with the expanded availability and use of immunotherapy and targeted molecular therapies. In addition, there is an increased recognition of benefits to local
therapy when patients have oligometastastic disease [7]. The role of “salvage surgery” is therefore likely to further increase in the future. However, it is important to note that the top indication for salvage surgery in the current study’s cohort was for resecting of oligometastatic disease (n=45, 38%), and most of these patients had only one metastatic location at diagnosis. Systemic therapy likely will therefore remain the second-line therapy of choice for most NSCLC patients. In addition, surgeons must consider their own experience before tackling these complex resections, to be sure they feel that they can replicate the results of a highly selected cohort of patients from an outstanding thoracic surgery institution. Nonetheless, surgeons are likely to be increasingly asked to consider resection of patients initially deemed non-operable and this current study by Dunne and colleagues can be used to aid in patient selection.
References


[6] Dickhoff C, Otten RHJ, Heymans MW, Dahele M. Salvage surgery for recurrent or persistent tumour after radical (chemo)radiotherapy for locally advanced non-small cell
