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Commentary: Once bitten twice...fry?

Christopher W. Seder, MD

As low-dose computed tomography lung cancer screening gains momentum, thoracic surgeons are likely to treat more patients with early-stage lung cancers. These lesions are often amenable to sublobar resection using minimally invasive, parenchymal-sparing techniques. However, many patients with lung cancer have a field defect that predisposed them to their first cancer and places them at risk for subsequent malignancies. When a second lesion is found on routine surveillance of a patient who had a previous lung resection and has preserved lung function, repeat surgery should be considered.

Hattori and colleagues¹ report a series of patients with resected metachronous ipsilateral non-small cell lung cancer (NSCLC) after previous lung resection. They conclude that although technically challenging, repeat anatomic resection can be performed with acceptable surgical and oncologic outcomes. I doubt that many thoracic surgeons will be shocked by these findings. Although I was surprised to see the authors report 2 cases of right lower lobectomy after right upper lobectomy, leaving just the middle lobe intact!

The primary limitations of this report are the small sample size and nearly unavoidable selection bias in choosing reoperative candidates. The fact that pathologic stage was not associated with overall survival speaks to the study's severely underpowered nature. I predict that with more patients, a disease-free and perhaps overall survival difference would have been observed between repeat nonpneumonectomy anatomic and nonanatomic resection in favor of the former.

Before surgeons take this article to their local tumor board as ammunition for repeated resection, the merits of stereotactic body radiotherapy (SBRT) must be considered. There is a lower rate of grade 3 and 4 treatment-related complications with SBRT when compared with surgery.² In addition, SBRT has demonstrated good local control rates and

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CENTRAL MESSAGE

Repeat anatomic resections can be performed in patients with metachronous ipsilateral non-small cell lung cancer after previous lung resection with acceptable surgical and oncologic outcomes.

midterm outcomes for patients with medically inoperable, as well as those with operable, early-stage lung cancer.^{3,4} Unfortunately, pathologic nodal assessment is omitted with SBRT, and tissue diagnosis is often assumed or limited to samples that may be inadequate for molecular testing. Hattori and colleagues¹ suggest that in properly selected patients, even repeated anatomic lung resection for metachronous ipsilateral NSCLC is feasible and reasonable. Let us not forget, anatomic resection remains the gold standard for patients with operable early-stage NSCLC.⁵

Ultimately, only a randomized, controlled trial comparing the long-term outcomes of patients with second ipsilateral NSCLC who undergo nonpneumonectomy anatomic resection with those who receive SBRT will shed light on the question at hand. Such a trial would likely be difficult to arrange given the relative rarity of the clinical scenario, making it most likely to succeed only through a cooperative group such as the Thoracic Surgery Oncology Group or General Thoracic Surgery Club Clinical Trials Network. It is up to us surgeons to design and participate in more trials that answer important surgical questions such as this one, so that we may continue to provide the best evidence-based care for our patients.

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Commentary: Second ipsilateral metachronous lung cancer: What to do?

Antonio D'Andrilli, MD, and Erino A. Rendina, MD

The article by Hattori and colleagues¹ deals with an interesting and still not sufficiently explored issue in thoracic surgery: the role of repeated anatomic resection for radical treatment of second metachronous ipsilateral non-small cell lung cancer (NSCLC). Although the incidence of a second primary lung cancer occurring ipsilaterally after curative resection is limited to 1% to 2% of patients, this topic carries increasing clinical implications, mainly due to the expanding indications for segmentectomy to treat stage IA NSCLC and to the progressively more frequent early detection of second NSCLC because of improved diagnostic technology and oncologic surveillance.²⁻⁴

In this clinical scenario, the present article provides several meaningful scientific messages. The first is that, when feasible, a nonanatomic re-resection can be an adequate therapeutic choice because overall survival and recurrence-free survival results are comparable to those after anatomic resection, but postoperative morbidity is lower. This is particularly true for less aggressive tumors such as peripheral adenocarcinoma with ground-glass opacity component.

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CENTRAL MESSAGE

Repeated anatomic parenchymal-sparing resection for the treatment of metachronous ipsilateral NSCLC should be preferred to CP when nonanatomic resection is not feasible.

The second important message is that when a repeated nonanatomic resection is not feasible (mainly due to tumor size and location), attempt to avoid completion pneumonectomy (CP) performing anatomic parenchymal-sparing resections is justified, because these procedures show similar surgical outcomes (in terms of morbidity, mortality, and long-term survival) compared with CP and allow beneficial preservation of lung parenchyma and lower rate of life-threatening complications. This could indicate a novel promising strategy when approaching a second metachronous ipsilateral lung cancer. CP remains a valid option if no lesser resection is technically possible because of the large size and central location of the tumor.

A further evidence pointed out by this article is that repeated anatomic resections are demanding procedures requiring adequate surgical skill and judgment. The presence of dense adhesions and hilar fibrosis is almost the rule, with consequent potential need for challenging technical tasks including reconstructive procedures.