

## Commentary: Burn, baby, burn



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Joanna Sesti, MD (left), and Subroto Paul, MD, MPH (right)

### Central Message

Full-dose preoperative radiation (60 Gy) can be given to patients with stage IIIA non–small cell lung cancer with acceptable mortality at selected centers.

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If there is one thing lacking in the treatment of stage IIIA lung cancer, it is consensus. The spectrum of patients in this group is vast, ranging from those with a large primary tumor and no mediastinal lymph node involvement, to those with a small primary tumor with bulky, multistation mediastinal disease, to incidentally found mediastinal nodal disease. Surgery, chemotherapy, radiation, and now immunotherapy are all used in some way, shape, or form to treat this complex group of patients. So when it comes to treatment of stage IIIA lung cancer, the saying “All roads lead to Rome” applies. In their work, Donington and colleagues<sup>1</sup> have explored yet one more road. The article, “Resection Following Concurrent Chemotherapy and High-Dose Radiation for Stage IIIA Non–Small Cell Lung Cancer,” published in this issue of the *Journal*, looks at short-term surgical outcomes after induction treatment with carboplatin and paclitaxel and high-dose radiation (60 Gy).<sup>1</sup>

The study pools data from 2 recent, prospective, randomized, multicenter trials (RTOG 0220 and 0839) with a primary outcome of mediastinal sterilization. In this study, postoperative adverse events, 30-day mortality, and 90-day mortality are evaluated. The study is small, with only 93 patients undergoing anatomic resection after chemotherapy and radiation. Pathologic complete response was seen in 25% of patients, and mediastinal sterilization in 72%. R0 resection occurred in 91% of surgical patients, with 83% of those resections being lobectomies. Grade 3 or 4 adverse events, 30-day mortality, and 90-day mortality were 28%, 4%, and 5%, respectively for the entire surgical cohort; for lobectomies, those numbers were 26%, 1.3%, and 2.6% respectively. These outcomes for lobectomy are comparable to other published results.<sup>2</sup> Contrastingly, extended resections in this analysis were associated with increased mortality, 19% at 30 and 90 days, which echoes previously published results.

It is important to note that surgical expertise may account for the favorable outcomes in this analysis, as Donington and colleagues<sup>1</sup> point out. Surgeons in the trial were required to be board certified in thoracic surgery and to

have experience with postinduction resections, and all patients needed pretreatment surgical evaluation before enrollment.

This significance of this study by Donington and colleagues<sup>1</sup> lies in that it gives patients with stage IIIA disease one more avenue towards treatment. A significant proportion of patients who are intended for trimodality treatment never make it to surgery because of disease progression or decline. If these patients were treated with chemotherapy and high-dose radiation from the get-go, they at least would have received “definitive” treatment. In addition, patients treated with definitive chemotherapy and radiation who have persistent disease may be considered for surgery without the idea that this will result in prohibitive postoperative morbidity and mortality. Finally, if in fact mediastinal sterilization equates to improved overall survival, this may be the first, small step toward considering high-dose radiation as induction therapy in patients deemed to have operable disease.

The study is limited mostly by its small size and the fact that surgeons were allowed to defer resection in patients with persistent nodal disease. In addition, because the pool of surgeons included in the study was limited to those with specific qualities, the results may not be applicable to many programs across the country. Finally, the study is limited by progress. Immunotherapy is a game changer in the treatment of lung cancer. Its utility in the treatment of resectable lung cancer is only now being investigated.<sup>3</sup>

Whereas all roads may have led to Rome, further inquiry will be needed before this path is deemed fit to follow. Until then, cranking up the heat on stage IIIA lung cancer must be done with caution.

### References

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