Editorial

Adjuvant chemotherapy for a T3 additional tumor nodule in the same lobe: ready for prime time?

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In a recent edition of the *Journal of Thoracic Oncology*, Salazar *et al*. sought to determine the role of adjuvant chemotherapy in a subgroup of patients with T3 non-small cell lung cancer (NSCLC) who presented with an additional tumor nodule in the same lobe (1). To address this question, the authors used the National Cancer Database (NCDB), which, in 2010, added an additional subcategory to identify T3 tumors on the basis of the presence of an additional tumor nodule in the same lobe. From this cohort of patients with T3 tumors (n=1,013), those requiring additional chemotherapy for other indications—such as lymph node metastases, tumors ≥4 cm, and direct chest wall invasion—were excluded. Patients with direct tumor extension to the main bronchus <2 cm from the carina, brachial plexus (pancoast tumor), chest wall, diaphragm, phrenic nerve, mediastinal pleura, or parietal pericardium were also excluded, resulting in a treatment-naive cohort of 528 patients with an additional nodule only as the sole qualifying criterion for T3 tumor. A subgroup analysis of patients (192 with multiagent adjuvant chemotherapy, 336 with no adjuvant therapy) was also performed. Relative survival was calculated as a surrogate to cancer-specific survival, as the NCDB lacks a data field specifying cause of death. This was calculated as the ratio of the observed survival of a cancer cohort to the expected survival of the general population, matched on age, sex, and year, as has been validated previously (2). The authors report a statistically significant overall survival advantage for the adjuvant chemotherapy subgroup compared with the surgery-only subgroup (86% *vs*. 71%, log-rank P<0.001). In the T3 additional nodule only-cohort, 3-year relative survival was also estimated to be higher for the adjuvant chemotherapy group than for the surgery-only group (90% *vs*. 77%) (1).

The question of the optimal treatment for an additional tumor nodule in the same lobe is an important, albeit complicated one. The International Association for the Study of Lung Cancer reported an increasing incidence of NSCLC presenting with a separate ipsilateral tumor nodule in the same lobe since 2007 (3). It is important, however, to recognize that the subgroup of T3 tumors presenting as an "additional tumor nodule in the same lobe" represents a myriad of different clinical scenarios based on clinical and histologic data. It is also important to distinguish separate tumor nodules from second primary lung cancers, multifocal ground glass/lepidic tumors, and pneumonic-type lung cancers (3). These categories are being seen with increasing frequency but are associated with a decreased propensity for nodal and extrathoracic metastases and relatively good survival after resection (4). Although the authors are to be commended for using the NCDB to try to answer this question, there remain concerns with the conclusions, given the significant limitations of the NCDB. The authors note many of these in their report. However, some are worth repeating: (I) the NCDB does not provide any information about the satellite nodule tumor histologic profile, and therefore one cannot rule out a synchronous primary; (II) pulmonary function tests and treatment at other facilities are not recorded, and these factors may influence the surgical

approach; (III) there are no data in the NCDB regarding subsequent treatment (i.e., following a recurrence); and (IV) no data exist on what type of chemotherapy, dosing, or cycle completion patients received. As with many such papers, the use of the NCDB prompts more questions than it answers. However, this paper does raise an important point regarding the putative role of adjuvant therapy for T3 tumors with a satellite nodule. Unfortunately, this question is unlikely to be answered by a prospective clinical trial. External validation of the role of adjuvant chemotherapy following an R0 resection for a "small" T3N0M0 tumor with a same-lobe satellite nodule will likely need to come from large, clinically well-annotated institutional databases. Until such studies can be completed, this paper serves as the initial contribution to the literature on this topic and, as such, is relevant to the thoracic oncologic community.

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Footnote

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