

EDITORIAL COMMENT



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Mediastinal Staging: the past, the present and the future!

From 1974 onward the awareness that Non Small Cell Lung Cancer (NSCLC) with mediastinal lymph node metastases had a different prognosis, changed the practice of lung cancer treatment. Suddenly, the practice of upfront surgery for every resectable tumor, changed into the pursuit of accurate mediastinal staging. The fact that unexpected mediastinal lymph node disease was still found in some patients without enlarged nodes on Computed Tomography (CT), lead some groups to systematically biopsy every single patient before deciding on the indication for lobectomy/pneumectomy. The groups experienced in mediastinoscopy did it before thoracotomy, with a frozen section examination of the nodes, while the ones not familiar with the technique, would harvest the lymph nodes at thoracotomy, deciding not to proceed with the lung resection after positive pathological testing.¹

Individual pathologist experience with the artifacts resulting from cutting frozen tissue is an important issue, with unacceptable rates of exploratory thoracotomies, delaying systemic treatment in some and increasing the morbidity at re-thoracotomy in others.

The discovery of PET-CT was a giant leap forward in lung cancer staging.² It became routine staging for every patient deemed for intent-to-cure surgery, but the initial uproar of confidence in this new miracle exam, was soon replaced by the facts: false positive mediastinal findings, especially in a country where tuberculosis was still frequent, and low sensitivity for small lesions under 6-10mm, redefined the indications for mediastinal invasive testing³.

Numerous studies on mediastinal disease spreading refined the guidelines to where we are now: mediastinal homolateral spreading (N2) is now recognized as a spectrum

of disease, with sub classification into different prognosis N2 groups: a-c.⁴

While single station resectable N2 is recognized as a possible indication for upfront surgery⁵, other resectable N2 do not gather consensus on the best course of action.⁶

So, mediastinal minimally invasive staging resurfaced as a necessity for adequate treatment and EBUS/EUS are now extensively used to define the strategy. Mediastinoscopy, since first introduced by Carlens in 1959, remains the gold standard for mediastinal invasive staging, but is limited to peribronchial lymph nodes. Still in association to VATS, can accurately stage all levels of mediastinal spread.¹

The early straightforward guidelines were redefined to fit the variables, and the world lung cancer community understood that a large number of patients would not completely fit into the expected disease behavior. Multidisciplinary discussion of every single case, allied to the shared experience of all the professionals involved in decision making during the course of that patient's illness, was found to improve personalized precision treatment, refined to the genetic level.

Now, new actors came into scene: immunotherapy and targeted therapy opened new frontiers in lung cancers treatment for stage IV patients and are moving into early disease treatment protocols. The paradigm of induction and adjuvant therapy with very efficient drugs is leading us into a bright new future, with amazing response rates, but they don't apply to every single case!⁷

In the future, precision medicine will continue to lead NSCLC treatment, and the surgeon's role is irreplaceable both in staging and treatment in the alliance against lung cancer!

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