



# Dissection of the left paratracheal area is frequently missed during left side non-small cell lung cancer surgery

Gonzalo Varela<sup>1</sup>, Marcelo F. Jiménez<sup>2</sup>

<sup>1</sup>Salamanca Institute of Biomedical Research (IBSAL), Salamanca, Spain; <sup>2</sup>Thoracic Surgery Service, Salamanca University Hospital, Salamanca, Spain  
Correspondence to: Dr. Gonzalo Varela. Calle Urraca 1, Santa Marta de Tormes, 37900 Salamanca, Spain. Email: gvs@usal.es.

Comment on: Shibano T, Tsubochi H, Tetsuka K, *et al.* Left mediastinal node dissection after arterial ligament transection via video-assisted thoracoscopic surgery for potentially advanced stage I non-small cell lung cancer. *J Thorac Dis* 2018;10:6458-65.

Submitted Feb 25, 2019. Accepted for publication Mar 04, 2019.

doi: 10.21037/jtd.2019.03.15

View this article at: <http://dx.doi.org/10.21037/jtd.2019.03.15>

In a paper recently published in the *Journal of Thoracic Disease* (1), the authors report their experience in intraoperative mediastinal staging in patients with left side non-small cell lung cancer (NSCLC) tumours classified as clinical stage I. The authors present a nice video showing how to dissect the left paratracheal areas after sectioning the ligamentum arteriosum via video-assisted thoracoscopic surgery (VATS), with very low morbidity and excellent 5-year survival (over 80%) in pN2 cases. In the authors' series, the overall rate of unexpected N2 disease is 36% (27/75); of those, 10 cases (13.3%) were found to have positive lymph nodes on what the authors call "zone 2", including 2L, 4L and 7 areas.

To note is that the authors have included in their report only patients with a high probability of having mediastinal metastases, according to the following criteria: the standardized uptake value (SUV) of <sup>18</sup>F-fluorodeoxyglucose in the primary tumour was greater than 3, the SUV of ipsilateral nodes was higher than that of contralateral nodes, and preoperative serum carcinoembryonic antigen (CEA) concentration was greater than 5 ng/dL. It could be hypothesised that in cases without the risk criteria, the probability of finding left paratracheal lymph node metastases would be lower.

Although in some practice guidelines (2) dissection of the left upper mediastinum after division of the ligamentum arteriosum is considered mandatory to perform systematic nodal dissection in the left side, and despite that left paratracheal lymph node metastases are found in more than 13% of the patients if the mediastinum is fully dissected through a median sternotomy (3), the prevalence of left

paratracheal lymph node metastases is frequently missed in published papers (4,5). That is probably because left paratracheal area is not routinely dissected due to advanced technical requirements.

In the paper by Shibano *et al.* (1), cases were selected according to their probability unexpected N2. Selection criteria based on CEA level (6) and <sup>18</sup>F-fluorodeoxyglucose positron emission tomography (FDG-PET) findings (7,8) have been already published by others. Additionally, more variables have been correlated with mediastinal staging migration in clinical stage I NSCLC patients. Some of these are: tumour size and differentiation (9); pleural invasion (10); micropapillary and solid component (10-12). The high prevalence of unexpected pathological N2 cases in early clinical stages lead to some respected clinicians to underline the relevance of mediastinal staging by endobronchial ultrasound-guided fine-needle aspirations (EBUS-FNA) during routine bronchoscopy (13). It would be important to remind that the rate of false negative results with endoscopic mediastinal staging is around 15% in cases previously selected by positive findings at computed tomography (CT) scan or combined CT/FDG-PET (14,15). In those series of cases, the prevalence of pathological N2 is over 50% (15); thus, it is expected that the true false negative rate of the technique is much higher if performed in series of cases with a pathological N2 rate under 10% (16). In the manuscript we are commenting here, preoperative endoscopic staging was not indicated even in FDG-PET positive cases due to the high probability of false negative results in cases with mediastinal lymph nodes under 1 cm in diameter.

As stated above, the value of intensive invasive mediastinal clinical staging has been emphasised due to its expected high impact on patient management. Induction chemotherapy regimens in stage IB–IIIA NSCLC are claimed to improve patient overall survival, time to distant recurrence, and recurrence-free survival in resectable NSCLC (17). On the contrary, a systematic review and meta-analysis of randomised trials in patients with resectable lung cancer, found no evidence of a difference in overall and disease-free survival between the timing (postoperative versus preoperative) of administration of chemotherapy (18). Based on these evidences, it could be accepted that preoperative mediastinal staging has no role if all the disease (pulmonary and mediastinal) is considered resectable at multidisciplinary team (19). Such an attitude would result in saving injuries and discomfort to patients and decreasing unnecessary work-up burden and expenses.

Implementing the technique described by Shibano *et al.* (1) would guarantee complete and accurate intraoperative mediastinal staging without increasing patient's risk in clinical stage I NSCLC and allow multidisciplinary treatment in cases classified as pathological N2.

### Acknowledgements

None.

### Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

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**Cite this article as:** Varela G, Jiménez MF. Dissection of the left paratracheal area is frequently missed during left side non-small cell lung cancer surgery. *J Thorac Dis* 2019;11(Suppl 9):S1226-S1228. doi: 10.21037/jtd.2019.03.15