Action point: intraoperative lymph node staging

Paul E. Van Schil*

Department of Thoracic and Vascular Surgery, Antwerp University Hospital, Edegem (Antwerp), Belgium

* Corresponding author. Wilrijkstraat 10, B-2650 Edegem (Antwerp), Belgium. Tel: +32-3-8214360; fax: +32-3-8214396; e-mail: paul.van.schil@uza.be (P.E. Van Schil).

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When performing a lung cancer resection in patients who are technically and functionally operable, complete resection remains a major prognostic factor. Although still a controversial topic, specific criteria have been published to precisely define a complete resection [1]. These include that a systematic nodal dissection has been performed or at least, a lobe-specific nodal dissection. In both instances removal of at least six lymph node stations is required, of which three have to be in the mediastinum. Also, the highest mediastinal lymph node should be negative on definitive pathological examination. The European Society of Thoracic Surgeons (ESTS) published guidelines for preoperative and intraoperative lymph node staging in order to guide surgeons in performing a thorough lymph node evaluation [2, 3]. In almost all recent papers on lung cancer resection, the authors mention that these specific guidelines were carefully followed.

In the present manuscript, the completeness of mediastinal nodal dissection was evaluated in four major hospitals in the Netherlands, three community and one university hospital [4]. All surgeons had a specific certification in thoracic surgery. The results are surprising: in only 36% of the patients at least three mediastinal lymph node stations were removed. Even more disturbing was the fact that a complete lymph node dissection according to the ESTS guidelines was performed in only 4% of patients. No difference was found between cardiothoracic and general surgeons with an additional certification in thoracic surgery. This clearly implies that many patients were understaged and that even the pathological tumour-node-metastasis (TNM) classification cannot be considered to be accurate.

Although this is a retrospective cohort analysis in a relatively small number of patients, this study demonstrates that we do not live in an ideal world and that in daily practice guidelines are not adequately followed. This seems to be a generalized problem and similar figures were reported in other studies. This not only relates to intraoperative nodal dissection but also to invasive staging and in a specific study lymph node biopsies were taken in <50% of patients undergoing mediastinoscopy [5].

The main question is why even dedicated thoracic surgeons are so reluctant to perform a thorough mediastinal lymph node dissection. Admittedly, operative time is somewhat increased and there is a risk of intraoperative bleeding from major structures as the azygos vein or superior vena cava, and a higher risk of chylous leakage from cut mediastinal lymphatic vessels. The subcarinal zone is more difficult to reach, especially when performing a video-assisted thoracic surgical (VATS) procedure. Do thoracic surgeons rely on integrated computed tomographic–positron emission tomographic (CT-PET) scanning or the recently introduced minimally invasive techniques as endoscopic and endobronchial ultrasound?

Is formal lymph node dissection not necessary anymore when you have performed a mediastinoscopy preoperatively, although not all mediastinal lymph node stations are within reach of the mediastinoscope and the false negative rate is ~10%? Financial issues may also be involved and recently, in Belgium reimbursement has been increased when a systematic nodal dissection is performed during lung cancer resection.

The recently published American College of Surgery Oncology Group (ACOSOG) Z0030 phase III trial showing no difference in survival in patients with clinical T1-2, non-hilar N1 non-small cell lung cancer who were randomized between lymph node sampling and systematic nodal dissection, is misinterpreted by many surgeons and oncologists [6]. It should be stressed that these patients had a thorough pathologic evaluation of four nodal stations, of which three had to be in the mediastinum, before they were randomized. This is certainly not current practice in many thoracic centres and so, the results of the ACOSOG trial cannot be generalized.

The main message of the present study is that further education and training of thoracic surgeons, residents and fellows is necessary to increase the accuracy of intraoperative lymph node staging. Major thoracic surgical associations have the obligation to address this topic in their annual programme, educational and postgraduate sessions. Hopefully, the new nodal map introducing the concept of nodal zones grouping several lymph node stations, will increase the awareness of the importance of nodal staging and improve the overall quality of our surgical practice [7].

REFERENCES


