



CERVICAL VIDEO-MEDIASTINOSCOPY & EXTENDED CERVICAL MEDIASTINOSCOPY

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The current American and European guidelines for preoperative mediastinal nodal staging for NSCLC recommend to get tissue confirmation of regional nodal spread in all cases except in patients with small (≤ 3 cm) peripheral carcinomas with no evidence of nodal involvement on computed tomography (CT) and positron emission tomography (PET) [1,2]. We have a wide variety of surgical methods for mediastinal staging that are well integrated in the current preoperative algorithms. Their main indication is the validation of negative results obtained by minimally invasive endoscopic techniques

Mediastinoscopy, technique described by Carlens in 1959 [3], allows the exploration of the superior and middle mediastinum through a cervical incision. Over 50 years later, all the manoeuvres described by Carlens are still used today: inspection, palpation, puncture and biopsy of mediastinal tissues. For lung cancer staging, the range of exploration includes the cervical lymph nodes of the sternal notch, the lymph nodes along the trachea and both main bronchi, that is, the superior and inferior, left and right, paratracheal lymph nodes (nodal stations 2R, 2L, 4R, 4L, respectively), the subcarinal nodes (7) and the right and left hilar lymph nodes (nodal stations 10R, 10L, respectively), according to the International Association for the Study of Lung Cancer (IASLC) lymph node map [4].

The reliability of mediastinoscopy depends on its thoroughness, based on the number of biopsies performed and the number of nodal stations explored [5]. This accounts for the important heterogeneity in the reported sensitivity and negative predictive value (NPV) that ranges from 0.32 to 0.97 (median of 0.78) and 0.8 to 0.99 (median of 0.91), respectively [1]. In addition to the number of lymph nodes explored and biopsied, the use of a videomediastinoscope could also influence the accuracy of this technique. Videomediastinoscopy (VAM) provides better visualization of the operative field than conventional mediastinoscopy (CM) and facilitates the teaching process [6]. Although some authors found an increase in the number of LN or LN stations biopsied, no difference in sensitivity or NPV was found in favour of VAM [7]. However, in the American College of Chest Physicians (ACCP) systematic review, in pooling the data from 995 VAMs, the median sensitivity was higher (0.89) in comparison with the median sensitivity of 9267 CMs (0.78) [1].

Extended cervical mediastinoscopy (ECM), a technique described by Specht in 1965 [8] and popularized by Ginsberg [9] years later for staging carcinomas of the left lung, can be a good alternative to the classic parasternal mediastinotomy because it allows the assessment of para-aortic and subaortic nodal stations (stations 5 and 6) through the same incision of the standard cervical mediastinoscopy. Apart from its main indication, the assessment of the aortopulmonary window in patients with bronchogenic carcinoma of the left lung, this procedure is an excellent tool to obtain a biopsy of undiagnosed anterior mediastinal tumours or lymph nodes that have not been diagnosed by other methods such as transthoracic needle aspiration or Tru-Cut. Similarly, as parasternal mediastinotomy, this approach can be used to enter the pleural space (mediastino-pleuroscopy) to assess the primary tumour, pleural effusion, lung nodules, parietal pleural nodules and diaphragmatic and pericardial lesions [9,10].

Regarding its results in the staging of left lung cancers, a median sensitivity of 0.71 and NPV of 0.91 have been described [1]. Focusing on the sensitivity of this procedure, when ECM is performed selectively according to the results of CT and PET, the sensitivity increases [11]. This could probably be explained by the higher prevalence of N2-N3 disease in patients with enlarged lymph nodes or abnormal uptake in PET [11].

References

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