

TRANSCERVICAL APPROACH TO THE MEDIASTINUM AND THE LUNG



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Being in the center of the thoracic cavity, mediastinum is one of the fundamentals of thoracic surgery in terms of both diagnostic and resection methods. Approaching to the mediastinum varies according to the locations of the pathology. From sternotomy to minimally invasive techniques, many different approaches can be preferred. The best treatment for non-small cell lung cancer is dependent on correct staging of the disease[1]. Nodal status provides a very important role in anatomic staging of lung cancer[1]. Despite the fact that mediastinoscopy has been accepted as the gold standard method for preoperative mediastinal staging in patients with NSCLC, it has its inherent limitations, and the false-negativity rate can be as high as 10% and was equal to the false-negativity rate of endobronchial ultrasound-guided transbronchial needle aspiration[2]. On the other hand, video-assisted mediastinoscopic lymphadenectomy may provide as high as 97% of accuracy[3-5]. Video assistance is useful for visual upgrade in certain procedures and Video Assisted Mediastinal Lymphadenectomy (VAMLA) is considered as the gold standard for mediastinal staging of lung cancer[3-5]. However it has a limit in terms of the number of the lymph node stations that can be reached.

TRANSCERVICAL EXTENDED MEDIASTINAL LYMPHADENECTOMY(TEMLA)

As the minimally invasive techniques are developed, more “daring” procedures are done by the surgeons. Transcervical approaches are being preferred for their increased accessibility to more lymph node stations as one can sample or remove mediastinal lymph nodes from both sides. Transcervical Extended Mediastinal Lymphadenectomy(TEMLA) provides almost complete resection of all bilateral 12 level mediastinal lymph nodes which was introduced by Zielinski et al[6-7]. Upper and lower paratracheal and subcarinal lymph nodes are the main targets with this technique. In addition to these stations, station 1, 2 and 3 can be reached with this approach(Figure 1).

TEMLA is superior to the VAMLA and mediastinoscopy in terms of the number of the stations which can be accessed. From the station 1 to 8 almost every mediastinal lymph node can be sampled and/or removed via TEMLA.

In addition to that, TEMLA can be chosen for surgical mediastinal staging for the patient who already had a previous mediastinoscopy or VAMLA operation and received chemotherapy with/without radiotherapy[8]. The 98.3% negative predictive value is the highest among the current re-staging studies[8].

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CONCLUSION

Transcervical approach may provide almost perfect bilateral lymph node dissection via TEM-LA and it also seems to be one of the least invasive approaches for pulmonary resections in terms of cosmetic outcome and postoperative pain. In the minimally invasive era, a surgeon has the luxury to decide from various options. Patients with lung cancer having clinically suspicious lymph node metastasis can undergo complete mediastinal lymph node dissection/evaluation and resectional surgery via one cervical incision. A uniportal transcervical VATS approach for pulmonary resections combined with transcervical extended mediastinal lymphadenectomy provides an opportunity for anatomical pulmonary resection in addition to extensive bilateral mediastinal lymphadenectomy.

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