

UNIPORTAL VATS LUNG RESECTIONS



Cenk BALTA ¹

EVOLUTION OF VATS RESECTIONS:

Video-assisted thoracic surgeries were performed by using 3 or 4 ports in the early 90s. McKenna et al. published 1100 VATS lobectomy cases with 3 or 4 ports and found excellent outcomes such as less blood loss, reduced pain, shorter hospitalization, and decreased complications [1]. In the same years, Onaitis et al. stated that they used two ports in 500 patients who underwent lobectomy for lung cancer [2]. Rocco et al. define uniportal access for wedge resections and pleural biopsies in 2004 [3]. Uniportal VATS lobectomy was performed applied by Gonzales - Rivas et al. for the first time in 2011. This method has been recognized as a popular and useful procedure in the following years [4]. In the randomized controlled study of Perna et al. In 2016, it was stated that uniportal surgery has no superiority over multi-portal surgeries [5]. In our clinical opinion, uniportal

lobectomies have a straight frontal view of the pulmonary hilum, which provides a safer dissection.

UNIPORTAL VATS WEDGE RESECTIONS

Uniportal VATS wedge resection, which Rocco et al. [3] defined for the first time with 15 patients, is currently used to diagnose peripheral lung nodules, metastasectomy, and treatment of pneumothorax and bullous diseases. The surgical procedure is performed with a 2-3 cm incision from the 4th intercostal space of the lateral decubitus positioned patient. The visualized lesion is held with a curved endoscopic clamp and removed by wedge resection with an endostapler. Lesions that cannot be visualized and identified by digital palpation can be detected using preoperative CT-guided methylene blue (Figure 1) or hook-wire [6] or intraoperative ultrasound applications [7].



Figure 1: Small peripheral nodule detected with preoperative CT guided methylene blue injection and postoperative view of the incision.

¹ Asst. Prof. Balikesir University, School Of Medicine, Department Of Surgical Medical Sciences, Department Of Thoracic Surgery, Balikesir drcenkbalta@gmail.com

tension of the tumor must be evaluated preoperatively with bronchoscopy. The same principles applied in open surgery are valid, and the patient position and incision are the same as in uniportal VATS lobectomies.

Mahtabifard et al. indicated less operation time and shorter drainage time than open surgery, but the morbidity rate was 31% in 13 sleeve resection cases [20]. A multicenter study conducted in China stated that they did not monitor significant postoperative mortality after carinal resections [21]. However, there are insufficient studies to evaluate for VATS sleeve resections. Gonzales-Rivas et al. emphasized that to perform uniportal sleeve resection, the surgeon must have completed more than 200 VATS lobectomies and more than 20 open-sleeve resections [22].

Sleeve resections can be an alternative to pneumonectomies. Preservation of the lung parenchyma will increase the postoperative lung reserve and the patient's quality of life. In our opinion, there is a need for long-term surveillance studies and larger patient series on this subject.

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