Purpose: To validate the residual tumor (R) classification proposed by International Association for the study of Lung Cancer (IASLC) in non-small cell lung cancer (NSCLC) after sleeve lobectomy.

Methods: 682 patients during the period between 2013 and 2018 were analyzed. The R status based on the Union for International Cancer Control (UICC) were recategorized according to the IASLC criteria. Recurrence-free survival (RFS) and overall survival (OS) were assessed for the entire cohort and within different pathological N (pN) categories.

Results: In all, 631 (92.5%), 48 (7.1%), and 3 (0.4%) patients were classified as R0, R1, and R2 respectively by the UICC criteria, whereas 489 (71.7%), 110 (16.1%), and 83 (12.2%) patients respectively received R0, uncertain resection [R(un)], and R1/2 resection, according to the IASLC criteria. 96 (15.2%) patients with UICC R0 were reclassified as R(un) mainly due to positive highest mediastinal node removed (85.4%). 46 (7.3%) patients were reassigned from R0 to R1 owing to extracapsular extension. For all patients, significant differences were observed between R0 and R(un), R0 and R1/2 for RFS and OS, with no differences observed between R(un) and R1/2. Nevertheless, multivariable analysis demonstrated that survival differences only existed between R0 and R1/2 for RFS, the R descriptors were not independent prognosticators of OS for the whole population. Furthermore, subgroup analysis within pN0, pN1, and pN2 patients revealed distinct prognostic significance of the IASLC R status: for patients with pN0, multivariable Cox analysis showed no prognostic impact of the IASLC R status for RFS and OS; For patients with pN1, multivariable Cox analysis revealed that significant differences existed between R1/2 and R0, but there were no differences between R(un) and R0, R(un) and R1/2; For patients with pN2, multivariable Cox analysis demonstrated that significant differences existed between R(un) and R0, R1/2 and R0, but there was no difference between R(un) and R1/2.

Conclusion: The R descriptors proposed by the IASLC has prognostic influence in patients with NSCLC after sleeve lobectomy, showing different prognostic impact among different pN categories.

Chang Chen (1), Tao Chen (1), Yifan Zhong (1), Jiajun Deng (1), Likun Hou (1), Qiankun Chen (1), Dong Xie (1), (1) Shanghai Pulmonary Hospital, Shanghai