



## LOBAR VS SUBLOBAR RESECTION FOR CLINICAL STAGE I NSCLC IN PATIENTS WITH INTERSTITIAL LUNG DISEASE

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The standard treatment for patients with surgically resectable clinical stage I non-small cell lung cancer (NSCLC) is lung lobectomy with hilar and mediastinal lymph node dissection, according to several guidelines of lung cancer practice. However, if patients have early-stage NSCLC combined with interstitial lung disease (ILD), there is a unique problem when compared with NSCLC without ILD.

The 5-year overall survival (OS) after lung cancer resection for stage I NSCLC with ILD is 50-60%. It is poorer compared with about 80% for NSCLC without ILD. Because of the high biological malignancy of lung cancer itself in the background of ILD, about 50% of cause of deaths after surgical resection are lung cancer. The remaining 50% are deaths from other illness, most of which are deaths from respiratory failure, including acute ILD exacerbations within 30 days after surgery and deaths during the postoperative chronic phase. For this reason, it is unknown whether lobectomy is appropriate for early NSCLC with ILD.

Postoperative acute exacerbation of ILD is about 10% when the standard lobectomy is performed, and about half of them are fatal. On the other hand, it has been suggested that a sublobar resection such as wedge resection reduces postoperative acute ILD exacerbation (5.0% vs. 10.5%) and reduces respiratory failure deaths in the postoperative chronic phase (odds ratio, 0.35), compared with lobectomy [1, 2]. The other benefits of sublobar resection to standard lobectomy are reduction in operation time, reduction in intraoperative blood loss, and preservation of postoperative respiratory function. Although the risk of sublobar resection is shown to increase in local recurrence, a retrospective study for clinical stage I NSCLC with ILD suggested that there is no remarkable difference in OS between sublobar resection, such as wedge resection or segmentectomy, and lobectomy (3-year OS, 81.9% vs. 67.1%) [3].

Based on the above, sublobar resection could reduce complications and deaths due to acute ILD exacerbation and respiratory failure death after resection of lung cancer with ILD. Patients with ILD have chronic progressive decline in respiratory function; thus, the preservation of respiratory function is essential. Hence, Japan Clinical Oncology Group (JCOG) commenced a randomized phase III trial to confirm the clinical effectiveness of

sublobar resection for clinical stage I NSCLC with idiopathic pulmonary fibrosis which is one form of ILD compared with lobectomy (JCOG1708: SURPRISE) [4].

[1] Sato T, Watanabe A, Kondo H et al. Long-term results and predictors of survival after surgical resection of patients with lung cancer and interstitial lung diseases. *J Thorac Cardiovasc Surg* 2015;149:64–9.

[2] Sato T, Teramukai S, Kondo H et al. Impact and predictors of acute exacerbation of interstitial lung diseases after pulmonary resection for lung cancer. *J Thorac Cardiovasc Surg* 2014;147:1604–11.

[3] Tsutani Y, Mimura T, Kai Y et al. Outcomes after lobar versus sublobar resection for clinical stage I non-small cell lung cancer in patients with interstitial lung disease. *J Thorac Cardiovasc Surg* 2017;154:1089–1096.e1.

[4] Tanaka K, Tsutani Y, Wakabayashi M, et al. Sublobar resection versus lobectomy for patients with resectable stage I non-small cell lung cancer with idiopathic pulmonary fibrosis: a phase III study evaluating survival (JCOG1708, SURPRISE). *Jpn J Clin Oncol* 2020;50:1076–1079