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Commentary: Anatomical partial lobectomy: The indications should be better defined

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The traditional standard surgical procedure for stage IA non–small cell lung cancer is lobectomy. However, along with the wide application of computed tomography, there is an increased detection of small-sized early-stage lung cancer.¹ The necessity of lobectomy has been questioned. Our previous study showed intraoperative frozen section could precisely diagnose pre- and minimally invasive lung adenocarcinoma. Sublobar resection for patients with pre- and minimally invasive lung adenocarcinoma could achieve a 5-year recurrence-free survival of 100%.² The JCOG0804 trial evaluated the efficacy of sublobar resection for patients with tumor size ≤ 2 cm and consolidation tumor ratio ≤ 0.25 peripheral lung cancer, and showed that these patients had a 5-year relapse-free survival of 99.7%.³ The JCOG0802 trial is a randomized trial comparing segmentectomy with lobectomy for patients with peripheral tumor size ≤ 2 cm and consolidation tumor ratio >0.5 lung cancer. It showed that survival after segmentectomy is noninferior to lobectomy. However, the local recurrence after segmentectomy was much higher than lobectomy (10.5% vs 5.4%).⁴ These findings suggest that even for small peripheral lung cancer, sublobar resection cannot be deemed as radical surgery for all patients.

Doctors from the Chinese Academy of Medical Sciences Cancer Institute and Hospital proposed the concept of

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CENTRAL MESSAGE

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anatomical partial lobectomy (APL), which focused on the oncological margin and territory of corresponding bronchi or vessels.⁵ The authors presented the short-term outcomes after APL in a large series of 3336 patients. Impressively, there was no surgery-related mortality. The morbidity rate was 10.8%, and most of them were Common Terminology Criteria for Adverse Events grade 1 or 2. These results supported APL as a safe procedure. We believe that oncological margin is very important when performing segmentectomy. For some patients, standard segmentectomies are not able to achieve safe margins. These patients might benefit from APL.

Limitations of this study should also be noted, which require further research. First, there was no control group. The safety and efficacy of APL should be compared with a standard procedure. Second, long-term results are unknown. Because the JCOG0802 trial showed a high recurrence rate in the segmentectomy group, the recurrence and overall survival data after APL should be assessed in future studies. Last and most importantly, the indications of APL should be better defined. More than 40% of these patients had benign lesions, or pre-/minimally invasive adenocarcinoma. Pre- and minimally invasive adenocarcinoma can have a 5-year postoperative recurrence-free survival of 100%, regardless of the surgical procedures.² These patients might just have wedge resection, which is a simpler procedure and preserves the normal structure of the hilum. However,

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patients who have a high risk of developing local recurrence might need lobectomy. The authors should clarify what kind of patients are best suitable for APL.

On the basis of the results of this large-sample study, APL is a safe and feasible surgical procedure. Further studies are warranted to better define the indications of APL with the aim of letting the patients live longer and live better.

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