

## Strategy for early stage lung cancer in Japan

Norihiko Ikeda

Professor, Department of Thoracic Surgery, Tokyo Medical University

Lobectomy and mediastinal lymph node dissection is the standard operation for lung cancer. This principle was confirmed by the result of phase III trial comparing lobectomy versus sublobar resection for lung cancer less than 3 cm and node-negative (1).

Recently, due to the advance in helical CT, we have more chance to treat peripherally located lung cancer less than 2cm in size. Successful treatment outcomes of minimal invasive surgery employing VATS-lobectomy or sublobar resection for lung cancer less than 2cm have been reported. Especially, comparative study in Japan showed no survival difference between sublobar resection group and lobectomy group (2). However, several factors should be scientifically considered to decide the indication of sublobar resection; tumor size, location, safety margin, absence of nodal metastasis, biological nature of lung cancer, etc. Bronchiolo-alveolar carcinoma (BAC) should be a good indication for sublobar resection considering of its nature of non-aggressive nature and lobectomy for such lesion could be an excessive treatment. Also the lesion less than 2cm in diameter and located outer-third of the lung might be a candidate of segmental resection. The safety margin should be larger than 2 cm or at least, larger than the diameter of the tumor.

The most amenable pulmonary segments for segmental resection include the upper division and lingual of the left upper lobe, S6 and basilar segments. Anatomical segmental resection means the intersegmental plane is approached as preserving the intersegmental veins at the central portion. The segment to be resected is inflated after the isolation of segmental bronchus by the jet ventilation and the inflation-deflation line is cut using electrocautery or stapling from the peripheral site. Resected lymph nodes should be examined by frozen section during operation. The peribronchial lymphatic flow to No 13 lymph node in the preserved segment and lymphatic drainage from lung surface direct to mediastinum might be potential risk for “tricky” lymph node metastasis(3).

Currently, two large randomized studies are open in North America (CALGB 140503) and in Japan (JCOG0802) for lung cancer less than 2 cm in diameter without nodal involvement. Patients are randomized to either a lobectomy or a segmentectomy and both studies are planned in non-inferiority design for segmentectomy regarding

survival. The results of these RCTs will clarify the role of limited resection in patients with stage I patients.

## References

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