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**THORACIC  
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11<sup>th</sup> International Meeting on General Thoracic Surgery



Hospital  
Universitari  
Sagrat Cor

10<sup>th</sup> International Workshop on Surgical Exploration of the  
Mediastinum and Systematic Nodal Dissection



5<sup>th</sup> Meeting of the Thoracic Oncology, Thoracic  
Surgery, Techniques & Transplant, Respiratory Nursing  
and Respiratory Physiotherapy Areas of the Spanish  
Society of Pneumology and Thoracic Surgery (SEPAR)



3<sup>rd</sup> Joint Meeting of the Spanish Society of  
Thoracic Surgery (SECT)



30<sup>th</sup> Congress of the "Asociación Iberoamericana  
de Cirugía Torácica" AIACT



10<sup>th</sup> International Workshop on Surgical Exploration of the  
Mediastinum and Systematic Nodal Dissection



## WEDGE RESECTION FOR PURE-GGO LESION

Shun-ichi Watanabe

*National Cancer Center Hospital, Tokyo, Japan*

The number of CT-detected early-stage lung cancers showing ground-glass opacity nodule (GGN) is rising, and a new optimal therapeutic strategy for the subsolid nodule is needed. The optimal treatment of each nodule within the AAH-adenocarcinoma sequence should be different, and possibilities include follow-up, wide wedge resection, segmentectomy, or lobectomy. We can also find several subsolid nodules within the bilateral lungs of the same patient and must carefully consider the surgical strategy for subsolid nodules in each case. We must understand the natural course of subsolid nodules in order to decide whether follow-up or surgical intervention is required. In 2016, Kakinuma et al. published the results of a prospective observation study of subsolid lesions following the observation of the natural course of subsolid nodules at National Cancer Center Hospital and seven other institutions. Over twelve hundred subsolid nodules were followed-up with a mean follow-up time of 4.3 years. The subsolid nodules were classified into 3 categories, pure GGN, heterogeneous GGN, and part-solid GGN. Heterogeneous GGN was defined as part-solid GGN with a solid component that disappears in mediastinal windows. The probability of tumor growth at 5 years was only approximately 10% when the initial GGN diameter was less than 10 mm in a female patient, and pure GGN developed heterogeneous or part-solid GGN with an incidence of only 6%. They also measured the time-course of the appearance of a solid component within the tumor and found that only 6% of pure GGN developed a solid component at five years. The Japanese Society for CT Screening published the Guidelines for the Management of Pulmonary Nodules Detected by Low-dose CT Lung Cancer Screening based on these results. The current surgical indication for pulmonary nodules detected by CT according to the Japanese guideline includes three types of nodules, defined as a solid nodule of 10 mm or more, any part-solid or pure GGN of 15 mm or more, and any part-solid nodule of less than 15 mm, with a solid portion over 5mm. Regarding the determination of the type of surgery for subsolid tumors, Japanese surgeons make decisions based on tumor size and C/T ratio, defined as the maximum consolidation diameter divided by the maximum tumor diameter. JCOG performed a cohort study (JCOG0201) evaluating the correlation between radiological and pathological findings for stage I 545 adenocarcinomas 2.0 cm or less in size. Pathologic non-invasive adenocarcinoma was defined by the absence of lymph node metastasis or vessel invasion, and radiological non-invasive lung adenocarcinoma was defined by a consolidated maximum C/T ratio of less than 0.25 with a specificity of 98.7%. JCOG0804, evaluating wide wedge resection for radiological non-invasive lung adenocarcinoma

of less than 2cm, and the other is JCOG1211, evaluating segmentectomy for part-solid GGO lesions with C/T ratio of less than 0.5 and 2.1-3.0 cm diameters. Both trials showed only few recurrence and very good survival after pulmonary resection. Now we JCOG are proceeding to the next stage of watchful waiting study for GGO-dominant tumor, JCOG1906 (EVERGREEN) trial. We have already registered 370 cases so far. As the number of early-stage peripheral lung cancer increases, and many patients have multifocal small lesions, the choice of surgical procedure should be tailored to each case.