OBJECTIVES
Radiological invasive non-small cell lung cancer (NSCLC) is defined as a tumour with a consolidation tumour ratio (CTR) more than 0.5 based on a prospective study in Japan. However, prognostic significance of the presence of ground glass opacity (GGO) in this cohort is not well clarified. Hence, we evaluated clinicopathological features and prognosis of c-stage IA radiological invasive NSCLC on the basis of GGO component.

METHODS
Between 2008 and 2013, we reviewed 497 surgically resected c-stage IA radiological invasive NSCLC. According to the presence of GGO component, they are classified into 2 group, i.e. part-solid (0.5 ≤ CTR < 1.0, n = 177) and pure-solid (CTR = 1.0, n = 320). Furthermore, part-solid tumour was subdivided as GGO-frequent (0.5 ≤ CTR < 0.75, n = 115) and solid-frequent (0.75 ≤ CTR < 1.0, n = 62).

RESULTS
Pure-solid NSCLC showed oncologically significant differences compared with part-solid NSCLC regarding CEA (6.4 ng/dl vs 3.1 ng/dl, P < 0.0001), SUVmax (6.1 vs 2.2, P < 0.0001), pathological nodal involvement (23.4% vs 4.5%, P < 0.0001), lymphovascular invasion (46% vs 17%, P < 0.0001). Multivariate analysis revealed that CEA and pure-solid appearance were independently significant clinical predictor of survival (P = 0.001, 0.030). The five-year overall survival (OS) and recurrence-free survival (RFS) revealed significant differences between pure-solid and part-solid NSCLC (5-year OS, 82.7% vs 95.3%, P < 0.0001; 5-year RFS: 71.5% vs 91.0%, P < 0.0001). In contrast, among the patients with part-solid NSCLC, oncological characteristics between GGO-frequent and solid-frequent types are clinicopathologically similar. The 5-year OS and RFS are both equivalent between the GGO-frequent and solid-frequent arms (5-year OS, 95.3% vs 96.8%, P = 0.703; 5-year RFS 89.6% vs 95.2%, P = 0.281). Furthermore, maximum tumour size (P = 0.371), solid component size (P = 0.402) and CTR (P = 0.661) were not associated with poor OS in radiological part-solid NSCLC.

CONCLUSION
Only a small amount of GGO component could have a great impact on the favourable prognosis among c-stage IA radiological invasive NSCLC. Therefore, a thorough distinction between part-solid and pure-solid findings on thin-section CT scan is extremely important when evaluating oncological outcomes of radiologically solid lung cancers.

Disclosure: No significant relationships.