

common. At the time of diagnosis, intrapulmonary metastases were found at seven cases (16%)

**Conclusion:** Predominant radiologic finding of PA pattern adenocarcinoma is solitary nodule or mass with lobulation and fine speculation. Secondary dominant CT feature is central mass or infiltration which are uncommon in adenocarcinoma. Further investigation is necessary to correlate pathologic findings of these two subtypes. GGO, air-bronchogram and consolidation is less common CT findings. Although it is not specific, there are several characteristic CT features to suggest subtype of adenocarcinoma with micropapillary pattern.

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Imaging and Staging Posters, Mon, Sept 3

### Natural History of Small Lung Lesions with Ground-glass Opacity

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**Background:** In recent years, clinical use of high-resolution computed tomography (CT) has greatly advanced the diagnosis of small lesions of the peripheral lung. Such small lesion is often associated with ground-glass opacity (GGO) in CT findings. The important issue in the management of small lung carcinoma, especially those showing pure GGO, is the dormant nature of the tumor. Although it has been suggested that the adenoma-carcinoma sequence also applies to tumorigenesis in adenocarcinoma of the lung, no persuasive data have been presented about the percentage of pure GGO lesions that are indolent over a long clinical course or the percentage of GGO lesions that progress to become solid lesions. The timeframe for small GGO lesions to progress to solid tumors is also unclear. To avoid an overdiagnosis bias and unnecessary surgery, it is important to elucidate the natural history of the small lung lesions showing GGO features.

**Methods:** We investigated clinicopathological findings of 18 patients with small peripheral lung lesions showing pure GGOs or part-solid GGOs defined with CT and retained for more than six months. After long-term observation, three of 18 patients underwent pulmonary resection, and 15 are currently being followed.

**Results:** The patients comprised six men and 12 women, ranging in age from 37 to 80 years. The median follow-up period was 25 months, ranging from 6 to 72 months. The size of lesion at the time of first presentation was 5 to 22 mm in largest diameter. There were 12 patients with solitary lesion and six had multiple lesions ranging in number 2 to 20. Of the 18 patients, 10 showed pure GGO on CT and 8 with part-solid GGO type. During follow-up, the size of lesion showed no change ( $\pm 1$ mm) in 13 (72%) patients, increased slightly (up to 5mm) in three (17%), and increased by more than 5mm and showed new lesions in two (11%). Of the 10 patients with pure GGO, 9 showed no change in size of the lesion. Three patients underwent limited pulmonary resection (segmentectomy in two patients and wedge resection in one) with negative surgical margin. Of them, two patients had adenocarcinoma and one bronchioloalveolar carcinoma. There was no clear tendency between the degree of size change and histology. All patients are alive.

**Conclusions:** Previous reports have often suggested that the management of GGO lesions should differ from the management of small, peripheral, noncalcified solitary nodules showing soft-tissue density. Our data suggest that some small lung lesions, especially showing pure GGO, will never progress to clinical disease and might be overdiagnosed.

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### Comparison of WHO and RECIST criteria for assessment of response in patients with lung cancer- A pilot study

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Objective tumor response is a common endpoint in daily practice as well as in clinical trials to evaluate the efficacy of anti-cancer agents. To maintain uniformity we are following the consensus statements for long times. The general sense suggests that any tumor response is always three dimensional. However by the application of the mathematical models we gradually reduced it to two dimensions (WHO). However progress in imaging technology mandated new methodology to evaluate response to treatment. One among such is the Response Evaluation Criteria in Solid Tumors Group (RECIST) guidelines using unidimensional measurement. Theoretically, the simple sum of the maximum diameters of individual tumors is not accepted by many oncologists as a representative of cell kill than is the sum of the bidimensional products and they prefer 3D. many previous trails have resolved this issue and presently the RECIST is considered as gold standard. However the practice of radiologists is not uniform and therefore we thought of comparing WHO and RECIST criteria

**Methods:** A total of 48 previously untreated patients with locally advanced or metastatic NSCLC during 2004 to 2006 with an ECOG performance status (PS) scale of  $\leq 2$  were included. Patients received either a combination of Gemcitabine and Cisplatin; Gemcitabine and Carboplatin or cisplatin with etoposide. Gemcitabine was given at a dosage of 1250mg/m<sup>2</sup> on days 1 and 8 of a 3 weekly cycle, while Cisplatin was given at 75-100mg/m<sup>2</sup> and Carboplatin at an AUC of 6 once every three weeks. Etoposide was given as 100mg/m<sup>2</sup> infusion per day over 3 days.

The treatment arms were based on the socioeconomic status of the patient. The responses were assessed with either a chest X ray or a CT scan again based on the economic status and the method was maintained constant all through the study. Response was assessed as per the RECIST criteria as well as WHO criteria. Assessment was done at end of every 2nd cycle and confirmed after 4 weeks of initial response. The tests repeated if clinically indicated. Our study shows the wide discrepancy between the WHO and the RECIST assessment systems and thus the need to evaluate on similar scales.

The ideal system seems to be the one that would simply look at the volume in a 3 dimensional way.

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### Is natural history of non-small cell lung cancer in accordance to TNM staging system?

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The International Staging System, is currently based on prognostic data, mainly issued from surgical series. It is generally considered that locally advanced non-small cell lung cancers have to be treated by multimodal approaches, at least including induction or adjuvant chemotherapy, because their propensity to distant metastatic spreading. Presumably those patients without N2 or N3 lymph node involvement will be referred to surgery, because disease progression is more expected at the locoregional level. Authors retrospectively reviewed 392 patients