

CLINICAL GUIDELINES
THE ARCHITECTURES
OF LUNG CANCER

In 2011, a joint panel of the International Association for the Study of Lung Cancer, American Thoracic Society and European Respiratory Society devised a novel classification system for lung adenocarcinomas (ADCs) based on tumour architecture. A new retrospective study, which evaluated histological samples from more than 500 ADCs using the guidelines, has found that the histomorphological patterns of the tumours can be used as predictors of overall survival, disease-specific survival and disease-free survival independent of tumour stage.

The 2011 guidelines streamlined the nomenclature for describing ADCs and made several other changes to the WHO classification system that has been used since 2004. In the new system, ADCs are classified by their histomorphological pattern (lepidic, acinar, solid, papillary or micropapillary) in 5% increments. Using these criteria, Warth *et al.* found that overall survival significantly differed when considering the predominant pattern: lepidic tumours were associated with the longest overall survival duration (78.5 months) and micropapillary the shortest (44.9 months).

Lung ADCs are heterogeneous and even though the dominant pattern correlates closely with overall survival, the researchers found that secondary patterns provided no extra information. The implication of this finding is that the new guidelines could be refined to focus only on the predominant pattern, further simplifying what for so long has been a complicated issue: reproducibility in classification. "We recently completed a round-robin assessment of pathologists and found that the new classification can be applied with reasonable reproducibility by experienced and inexperienced pathologists," commented Arne Warth, lead investigator of the study.

The next stage of the validation process, which Warth's team have already begun, is to prospectively evaluate patients with ADC. Combined with molecular pathology tests, this might strengthen prognostication or enable patient stratification for adjuvant chemoradiotherapy.

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Original article Warth, A. *et al.* The novel histologic International Association for the Study of Lung Cancer/ American Thoracic Society/ European Respiratory Society classification system of lung adenocarcinoma is a stage-independent predictor of survival. *J. Clin. Oncol.* doi:10.1200/JCO.2011.37.2185