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Title: Does IASLC/ATS/ERS classification of lung adenocarcinoma impacts prognosis?

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Body: Background: IASLC/ATS/ERS classification provides a uniform approach to categorize lung adenocarcinoma (AC) subtypes which may have a distinct clinical behavior. Objective: To identify clinical characteristics and prognostic impact of the new IASLC/ATS/ERS classification in patients with resected lung AC. Methods: IASLC/ATS/ERS classification in resections specimens was reviewed in patients who underwent resection of lung AC between 1999 and 2012. The impact of AC pattern in disease-free (DFS) and overall survival (OS) was determined. Result: 150 patients were included, 66% male, median age 65 years and 57.3% smokers. Median DFS was 38 months and OS was 76 months. AC patterns were: acinar predominant 44.7%, solid predominant 22.0%, papillary predominant 12.0%, lepidic predominant 3.3%, invasive mucinous 3.3%, two equally predominant patterns 9.4%, no cases of micropapillary predominant and 5.3% were not possible to reclassify. Lepidic predominant was significantly associated to female and non-smoker patients, smaller tumor size (<3mm) and lower pathological T (p= 0.018, 0.042 and 0.026, respectively). Solid predominant was significantly associated to male gender and smoking habits (p=0.007 and 0.027, respectively). Other patterns didn’t show significant associations. AC patterns were not associated to DFS. The 5-year OS in lepidic predominant was 100%, acinar predominant 66%, papillary predominant 59%, invasive mucinous 55% and solid predominant 50%. These differences were not statistically independent of the pathological TNM. Conclusion: IASLC/ATS/ERS classification of lung AC identifies morphologic patterns seem to be associated with distinct clinical, pathological and prognostic characteristics.