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Title: The significant relationship between ANA prevalence and male never-smokers with mixed ventilation disorders

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Body: Background. Abnormal autoimmunity is associated with the pathogenesis of chronic obstructive pulmonary disease. The relationship between serum antinuclear antibody (ANA) value and pulmonary function has not been investigated in a general population. Methods. Blood sampling and spirometry were performed in 3257 subjects from Takahata study that was based on an annual community health check in Japan. We compared characteristics of ANA-positive and ANA-negative subjects and investigated the relationship between ANA value and spirometric measures. Results. The prevalence of ANA positivity was significantly different among the spirometric classifications only in male never-smokers. The prevalence of ANA positivity in pure restrictive and pure obstructive subjects was not significantly different from that of normal subjects, in contrast, it was significantly greater in subjects with mixed pulmonary disorder than in other groups of male never-smokers. In male subjects, there were significant inverse relationships between ANA values and % predicted values for forced vital capacity (FVC), forced expiratory volume in 1 s (FEV1), and maximal midexpiratory flow (MMF), as well as FEV1/FVC. Conclusion. Autoimmune mechanism may involve in the development of airflow obstruction in never-smokers.