Background: Prolonged filtered P wave duration (PWD) would suggest conduction delay within atrium and pulmonary vein, and may be associated with advanced atrial remodeling. However there is little information available about the relationship between PWD and parameters representing severity of atrial remodeling. Methods: Consecutive 56 patients with paroxysmal atrial fibrillation were enrolled. PWD was measured using signal averaged electrocardiogram, and multi-detector computed tomography was performed to obtain left atrial (LA) volume and LA ejection fraction. Then, we investigated the relationship between PWD and parameters including LA volume and LA ejection fraction. Results: PWD (128 ± 12 ms) demonstrated a positive correlation with LA volume (73.9 ± 29.3 cm³, r = 0.58, p < 0.0001) and a negative correlation with LA ejection fraction (39.5 ± 12.3%, r = 0.38, p = 0.008). Conclusion: In patients with paroxysmal atrial fibrillation, PWD prolonged along with LA enlargement and impairment of its contractility. Prolonged PWD could suggest advanced atrial remodeling.

Keyword: PWD