**Left atrial anatomy and P-wave duration as predictors for single procedure success after pulmonary vein isolation**

*Takashi Ohkura*
*Tomonori Miki*
*Keitarou Senoo*
*Hirokazu Shiraishi*
*Takeshi Shiroyama*
*Satoaki Matoba*

**Introduction**: Many studies discussed factors for atrial fibrillation (AF) recurrence after pulmonary vein isolation (PVI), but the relationship anatomical, electrical behaviour and AF recurrence is still uncertain.

**Methods**: This study consisted of 127 patients (age 62.7 ±11.3, 30 female, Paroxysmal atrial fibrillation 92 patients) whose follow-up period 312±253 days. P-wave duration(PWD) in lead II, P-wave dispersion and P-wave terminal force were measured on the 12-lead electrocardiogram after the procedure. Anatomical measurements such as left atrial diameter (LAD), left atrial volume (LAV), left atrial volume index (LAVi) were collected from echocardiography.

**Result**: The recurrence rate was significantly higher in patients with longer PWD in lead II (127.5±16.4 vs 117.5±17.2, \(p=0.005\)), with an index LA volume (48.1±17.7 vs 38.0±15.2, \(p=0.003\)). In multivariate analysis, a prolonged PWD (Hazard ratio:1.03, 95%CI 1.01-1.06, \(p=0.008\)) and an indexed LA volume>37.6 ml/m² (HR:3.1, 95%CI 1.22-7.95, \(p=0.01\)) were identified as significant predictors for AF recurrence.

**Conclusion**: In our cohort of patients with AF, P-wave duration in lead II and the anatomical parameter revealed to be independent predictors for AF recurrence after PVI.