Elevated Red Blood Cell Distribution Width Predicts Recurrence After Catheter Ablation for Atrial Fibrillation in Patients With Heart Failure

– Comparison With Non-Heart Failure Patients –

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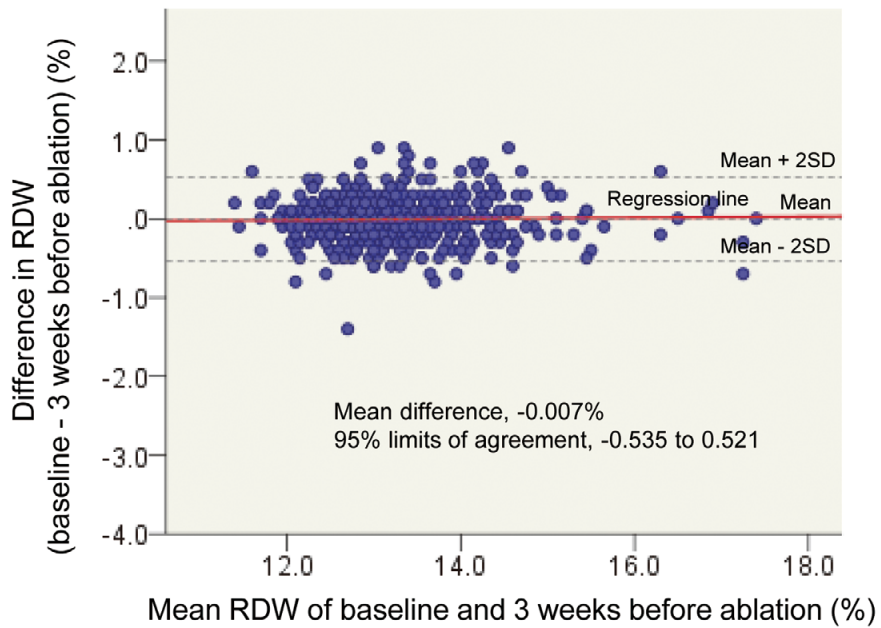Makoto Hirai, MD, PhD; Toyoaki Murohara, MD, PhD

—— **Supplementary File 1** ——

Table S1. Predictors of Baseline Characteristics for AF Recurrence on Univariate and Multivariate Regression Analyses in the LVEF >40% and LVEF ≤40% Groups Among the HF Patients

Parameters	LVEF >40% group (n=49)				LVEF ≤40% group (n=30)			
	Univariate analysis		Multivariate analysis		Univariate analysis		Multivariate analysis	
	HR (95% CI)	P value	HR (95% CI)	P value	HR (95% CI)	P value	HR (95% CI)	P value
Age, year	0.99 (0.96–1.04)	0.869			1.02 (0.98–1.06)	0.427		
Female	2.51 (1.13–5.59)	0.024*	2.01 (0.85–4.76)	0.112	4.52 (1.44–14.1)	0.010*	9.87 (1.25–77.7)	0.030*
BMI, kg/m^2	0.96 (0.86–1.08)	0.492			0.86 (0.73–1.01)	0.070		
Non-PAF	0.79 (0.36–1.72)	0.556			0.38 (0.13–1.11)	0.077		
Duration of AF, year	1.10 (0.99–1.21)	0.006*	1.08 (0.99–1.19)	0.101	1.01 (0.93–1.09)	0.892		
Hypertension	0.74 (0.33–1.64)	0.456			0.44 (0.12–1.56)	0.204		
Diabetes mellitus	1.07 (0.42–2.70)	0.893			6.58 (1.62–26.6)	0.008*	6.86 (0.89–52.9)	0.065
Coronary artery disease	1.02 (0.30–3.42)	0.978			1.28 (0.35–4.66)	0.712		
Stroke or TIA	2.13 (0.49–9.16)	0.312			3.76 (0.77–18.3)	0.102		
Hemoglobin, g/L	0.98 (0.78–1.24)	0.880			0.76 (0.59–0.98)	0.032*	1.18 (0.84–1.65)	0.343
WBC count (×10^3 μl)	1.02 (0.80–1.31)	0.855			0.72 (0.51–1.02)	0.065		
hs-CRP, mg/L	1.11 (0.72–1.73)	0.632			4.06 (0.99–16.5)	0.051		
RDW, %	1.33 (1.06–1.66)	0.015*	1.23 (0.97–1.54)	0.082	1.32 (1.05–1.65)	0.017*	0.93 (0.61–1.43)	0.740
MCV, fl	0.91 (0.84–1.00)	0.052			1.01 (0.92–1.11)	0.867		
Creatinine level, mg/dl	1.52 (0.14–16.3)	0.730			1.38 (0.20–9.78)	0.744		
eGFR, ml/min/1.73 m^2	0.99 (0.96–1.02)	0.543			0.98 (0.95–1.02)	0.272		
BNP level, pg/dl	1.00 (1.00–1.01)	0.072			1.00 (1.00–1.01)	0.097		
Total cholesterol, mg/dl	1.01 (0.99–1.02)	0.296			0.99 (0.98–1.01)	0.189		
Albumin, g/dl	1.43 (0.62–3.28)	0.402			0.34 (0.13–0.86)	0.023*	0.16 (0.03–1.02)	0.052
LAD, mm	1.02 (0.97–1.07)	0.563			1.03 (0.99–1.07)	0.128		
LVEDD, mm	0.95 (0.89–1.02)	0.010*	0.95 (0.88–1.01)	0.113	1.07 (1.00–1.15)	0.045*	1.28 (0.91–1.79)	0.159
LVEDS, mm	1.04 (1.02–1.07)	0.164			1.06 (1.00–1.13)	0.046*	0.81 (0.60–1.11)	0.184
LVEF, %	1.01 (0.95–1.06)	0.816			0.99 (0.93–1.06)	0.885		

*P<0.05. AF, atrial fibrillation; BMI, body mass index; BNP, B-type natriuretic peptide; CI, confidence interval; eGFR, estimated glomerular filtration rate; HR, hazard ratio; hs-CRP, high-sensitivity C-reactive protein; LAD, left atrial diameter; LVEDD, left ventricular end-diastolic diameter; LVEF, left ventricular ejection fraction; LVEDS, left ventricular end-systolic diameter; MCV, mean corpuscular volume; PAF, paroxysmal AF; RDW, red blood cell distribution width; TIA, transient ischemic attack; WBC, white blood cell.

(A) Non-HF group

Mean difference, -0.007%
95% limits of agreement, -0.535 to 0.521

(B) HF group

Mean difference, 0.098%
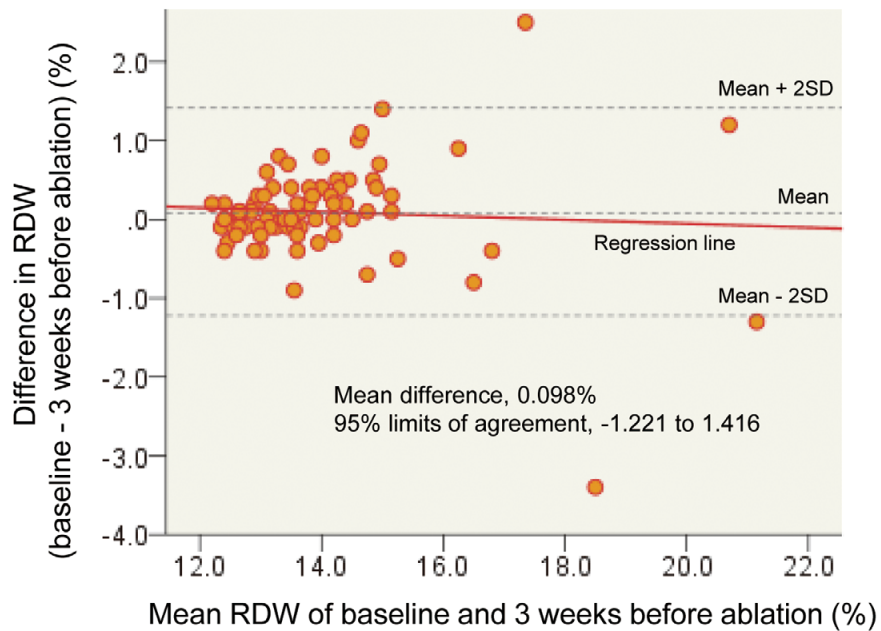95% limits of agreement, -1.221 to 1.416

Figure S1. Bland-Altman plots of difference in RDW between baseline and 3 weeks before ablation against the mean of the 2 measurements in the non-HF group (**A**), and HF group (**B**). HF, heart failure; RDW, red blood cell distribution width; SD, standard deviation.