



**Figure S1** Calculation of left atrial volume and function. The left atrial endocardial contour (orange curve) was delineated (A,D) at the end of left ventricular systole, (B,E) before left atrial systole, and (C,F) at end of left ventricular diastole of the (A-C) four-chamber long-axis and (D-F) two-chamber long-axis images of CMR slices. The left atrial volume in three phases was automatically calculated, as was the left atrial emptying fraction (LAEF).

**Table S1** Correlation between MRI-derived RA parameters and clinical and LV parameters in patients with T2DM and AR

Clinical and LV indices	$\varepsilon_s$		$\varepsilon_e$		$\varepsilon_a$	
	r	P value	r	P value	r	P value
AR degree	-0.677**	<0.001	-0.459**	<0.001	-0.714**	<0.001
Age	-0.28*	0.036	-0.21*	0.047	-0.17*	0.035
SBP	-0.247*	0.024	-0.118*	0.034	-0.304*	0.005
FPG	-0.135*	0.046	-0.026*	0.046	-0.134*	0.038
Years with diabetes	-0.152*	0.047	-0.258*	0.018	-0.146*	0.018
LVEDV	-0.385**	<0.001	-0.279*	0.011	-0.389**	<0.001
LVESV	-0.525**	<0.001	-0.404**	<0.001	-0.509**	<0.001
LVEF	0.569**	<0.001	0.405**	<0.001	0.582**	<0.001
LVMI	-0.362**	<0.001	-0.203*	0.017	-0.42**	<0.001
LV GRS	0.557**	<0.001	0.438**	<0.001	0.533*	<0.001
LV GCS	-0.62**	<0.001	-0.474**	<0.001	-0.604**	<0.001
LV GLS	-0.628**	<0.001	-0.44**	<0.001	-0.649**	<0.001

,  $P < 0.05$ ; \*\* $P < 0.001$ . AR, aortic mitral regurgitation;  $\varepsilon_a$ , left atrial active strain;  $\varepsilon_e$ , left atrial passive strain;  $\varepsilon_s$ , left atrial reservoir strain; LA, left atrium; LV, left ventricle; LVEDV, left ventricular end-diastolic volume; LVEF, left ventricular ejection fraction; LVESV, left ventricular end-systolic volume; LVMI, left ventricular mass index; r, correlation coefficient; T2DM, type 2 diabetes mellitus.

**Table S2** Reproducibility of the intragroup and intergroup correlation coefficient of LA strains via the CMR tissue-tracking technique

Strain	Intraobserver		Interobserver	
	ICC	95% CI	ICC	95% CI
$\varepsilon_s$	0.857	0.837–0.942	0.885	0.872–0.921
$\varepsilon_e$	0.882	0.855–0.975	0.867	0.865–0.934
$\varepsilon_a$	0.865	0.843–0.928	0.832	0.754–0.893

$\varepsilon_s$ , left atrial reservoir strain;  $\varepsilon_e$ , left atrial passive strain;  $\varepsilon_a$ , left atrial active strain; CI, confidence interval; ICC, intragroup correlation coefficient.