Supplementary

Table S1 Results of Shapiro-Wilk normality tests for relevant continuous variables

Variable	Group	P value	Normality
Age	ESKD	0.5626	Yes
	HCs	0.0099	No
BUN	ESKD_post	0.001	No
	ESKD_pre	6.00E-04	No
Calcium	ESKD_post	0.6984	Yes
	ESKD_pre	0.9633	Yes
Chloride	ESKD_post	0.51	Yes
	ESKD_pre	0.0956	Yes
Creatinine	ESKD_post	0.2643	Yes
	ESKD_pre	0.2595	Yes
eGFR	ESKD_post	0.067	Yes
	ESKD_pre	0.0017	No
Potassium	ESKD_post	0.7727	Yes
	ESKD_pre	0.5076	Yes
Sodium	ESKD_post	0.0409	No
	ESKD_pre	0.7151	Yes
ALPS_index	ESKD_post	0.3662	Yes
	ESKD_pre	0.5716	Yes
	HCs	0.1519	Yes
D_{xx_assoc}	ESKD_post	0.0017	No
	ESKD_pre	0.0054	No
	HCs	0.5649	Yes
D_{xx_proj}	ESKD_post	0.275	Yes
	ESKD_pre	0.0941	Yes
	HCs	0.6108	Yes
D_{yy_proj}	ESKD_post	0.1463	Yes
	ESKD_pre	0.0176	No
	HCs	0.586	Yes
D_{zz_assoc}	ESKD_post	0.0094	No
	ESKD_pre	0.0055	No
	HCs	0.3348	Yes

ALPS, along the perivascular space; BUN, blood urea nitrogen; D_{xx_assoc}, x-axis diffusivity in the association fibers regions; D_{xx_proj}, x-axis diffusivity in the projection fibers regions; D_{yy_proj}, y-axis diffusivity in the projection fibers regions; D_{zz_assoc}, z-axis diffusivity in the association fibers regions; eGFR, estimated glomerular filtration rate; ESKD, end-stage kidney disease; HCs, healthy controls.

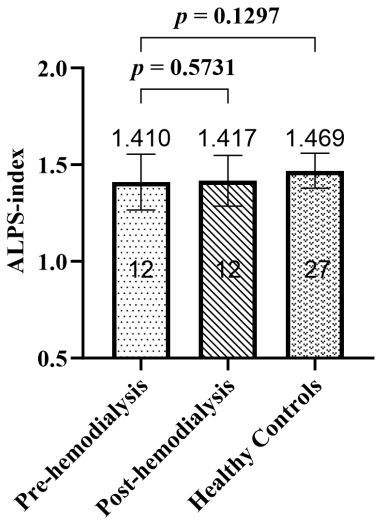

Figure S1 Comparison of the ALPS index between ESKD Patients and HCs after Excluding 13 Patients with Comorbidities. The figure presents the ALPS index for ESKD patients without documented cardiovascular comorbidities (n=12) and healthy controls (n=27), as well as pre- and post-hemodialysis measurements within the ESKD subgroup. The ALPS index was not significantly different between ESKD patients and healthy controls (1.410 *vs.* 1.469, P=0.1297), and no significant change was observed between pre- and post-hemodialysis measurements (1.410 *vs.* 1.417, P=0.5731). These findings suggest that comorbid conditions may partly contribute to the reduced ALPS index observed in the overall ESKD cohort. Additionally, the lack of a significant difference may also be due to the smaller sample size after excluding comorbid patients. Future studies with larger sample sizes are needed to confirm these observations. ALPS, along the perivascular space; ESKD, end-stage kidney disease; HCs, healthy controls.

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