

IL-1 β neutralization prevents diastolic dysfunction development, but lacks hepatoprotective effect in an aged mouse model of NASH

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Echocardiography		Parasternal long axis B-mode								
Group ID		Heart rate (bpm)	Area;s (mm ²)	Area;d (mm ²)	Volume;s (μL)	Volume;d (μL)	Stroke volume (μL)	Ejection fraction (%)	Fractional shortening (%)	Cardiac output (μL/min)
CON diet + Iso CON	Mean	559.90	18.11	28.13	37.82	77.63	39.81	53.06	14.77	22.29
	SEM	18.56	2.138	1.98	7.31	9.19	2.64	3.40	2.11	1.68
CON diet + Anti-IL-18 mAb	Mean	551.10	14.49	24.99	25.98	65.45	39.47	60.02	14.00	21.94
	SEM	14.60	0.57	0.75	1.96	3.69	3.46	2.93	1.00	2.32
	P vs. CON diet + Iso CON	0.7196	0.0742	0.0983	0.0900	0.1621	0.9303	0.1340	0.7262	0.8925
CDAA diet + Iso CON	Mean	552.70	16.92	25.71	34.33	70.28	35.95	52.64	11.36	19.99
	SEM	17.77	1.41	1.20	5.08	5.67	2.37	3.54	1.35	1.63
	P vs. CON diet + Iso CON	0.7571	0.5266	0.1748	0.5885	0.3678	0.3014	0.9229	0.1081	0.3474
CDAA diet + Anti-IL-18 mAb	Mean	565.20	15.57	25.55	28.92	68.68	39.76	58.18	12.88	22.45
	SEM	11.05	0.72	0.82	2.14	3.44	1.62	1.50	1.19	0.92
	P vs. CON diet + Anti-IL-1β mAb	0.5255	0.5466	0.7375	0.6340	0.6773	0.9340	0.6556	0.5709	0.8278
	P vs. CDAA diet + Iso CON	0.5477	0.4181	0.9205	0.3514	0.8258	0.2549	0.1584	0.4154	0.2631

Group ID		Short axis M-mode												
		Heart rate (bpm)	Diameter;s (mm ²)	Diameter;d (mm ²)	Volume;s (μL)	Volume;d (μL)	Stroke volume (μL)	Ejection fraction (%)	Fractional shortening (%)	LV mass (mg)	LVAW;s (mm)	LVAW;d (mm)	LVPW;s (mm)	LVPW;d (mm)
CON diet + Iso CON	Mean	548.50	3.02	4.32	37.49	84.87	47.38	57.34	30.38	185.00	1.45	1.04	1.42	0.97
	SEM	15.17	0.23	0.17	6.74	8.11	3.21	4.56	3.16	18.44	0.08	0.05	0.08	0.06
CON diet + Anti-IL-18 mAb	Mean	540.50	2.46	4.15	22.92	76.86	53.94	71.36	40.97	157.40	1.51	0.98	1.53	0.90
	SEM	16.71	0.19	0.12	4.75	5.09	3.16	4.25	3.20	12.80	0.06	0.02	0.11	0.05
	P vs. CON diet + Iso CON	0.7322	0.0703	0.4455	0.1014	0.4458	0.1465	0.0241	0.0171	0.1919	0.5512	0.4409	0.3315	0.3497
CDAA diet + Iso CON	Mean	549.80	3.14	4.34	41.39	86.28	44.88	53.99	28.13	173.60	1.50	1.02	1.24	0.90
	SEM	17.97	0.21	0.16	6.65	7.97	2.45	3.73	2.45	13.79	0.08	0.06	0.06	0.03
	P vs. CON diet + Iso CON	0.9555	0.6830	0.9156	0.6351	0.8870	0.5524	0.5511	0.5735	0.5632	0.6307	0.7462	0.1215	0.3427
CDAA diet + Anti-IL-18 mAb	Mean	558.10	2.96	4.34	34.74	85.59	50.84	60.04	32.15	185.60	1.54	1.03	1.45	0.99
	SEM	8.41	0.14	0.11	3.61	4.89	2.68	2.93	2.22	9.49	0.05	0.05	0.06	0.05
	P vs. CON diet + Anti-IL-18 mAb	0.4098	0.0794	0.3356	0.1403	0.3602	0.4431	0.0423	0.0272	0.1437	0.8180	0.4907	0.4013	0.2043
	P vs. CDAA diet + Iso CON	0.6749	0.4672	0.9883	0.3689	0.9381	0.1201	0.2339	0.2651	0.4994	0.6800	0.8511	0.0510	0.1890

		Short axis B-mode			Diastolic function				Strain analysis with 2D speckle tracking					
Group ID		Area;s (mm ²)	Area;d (mm ²)	Fractional Area Change	E' (mm/s)	IVRT (ms)	E (mm/s)	E/E'	Peak GLS	Peak GCS	E/LSrE	E/CSrE	LSrS	CSrS
CON diet + Iso CON	Mean	13.06	7.13	46.27	23.09	15.00	662.50	29.58	22.71	25.59	63.67	60.74	8.879	8.969
	SEM	1.29	0.94	2.66	2.41	0.58	49.34	2.24	1.83	1.721	11.97	6.801	0.272	0.796
CON diet + Anti-IL-1β mAb	Mean	12.06	5.82	51.80	24.98	13.90	642.10	25.85	26.13	29.73	44.79	49.34	11.73	11.58
	SEM	0.41	0.40	2.60	1.87	1.03	47.57	0.87	1.812	1.518	6.058	3.005	0.802	0.751
	<i>P vs. CON diet + Iso CON</i>	0.4016	0.2463	0.2492	0.5945	0.4539	0.7532	0.3031	0.146	0.139	0.121	0.149	0.029	0.052
CDAA diet + Iso CON	Mean	12.67	7.66	40.24	20.12	15.76	635.30	33.71	21.30	22.86	67.45	77.00	7.483	8.889
	SEM	0.70	0.83	3.89	2.51	0.10	41.09	3.49	1.371	1.779	7.662	3.932	0.308	0.794
	<i>P vs. CON diet + Iso CON</i>	0.7316	0.6121	0.1860	0.4063	0.6013	0.6749	0.2550	0.519	0.311	0.751	0.037	0.253	0.950
CDAA diet + Anti-IL-1β mAb	Mean	13.54	7.21	47.30	26.94	14.99	654.30	25.62	23.33	26.40	60.66	59.99	11.25	9.979
	SEM	0.64	0.58	2.14	2.38	1.00	35.92	2.11	1.056	1.888	6.323	5.123	1.027	0.912
	<i>P vs. CON diet + Anti-IL-1β mAb</i>	0.1773	0.1740	0.2996	0.5435	0.4151	0.8353	0.9437	0.1871	0.1881	0.149	0.140	0.655	0.179
	<i>P vs. CDAA diet + Iso CON</i>	0.3959	0.6353	0.0870	0.0420	0.557	0.7458	0.0186	0.302	0.1475	0.53	0.017	0.001	0.339

LSrE = early diastolic strain rate acquired from GLS
CSrE = early diastolic strain rate acquired from GCS
LSrS = systolic strain rate acquired from GLS
CSrS = systolic strain rate acquired from GCS

Supplementary table 1. - Conventional and two-dimensional speckle tracking echocardiography.

Two-dimensional images were recorded in long-axis view for volumetric and longitudinal strain analyses; short-axis view for wall thickness, diameter and circumferential strain analyses. Diastolic parameters were obtained by apical four chamber view. Data is presented as mean ± standard error of mean (SEM). Statistical analysis: two-way ANOVA, Fischer's LSD post hoc test. Statistically significant is considered P < 0.05. Statistically significant P values are highlighted with bold font.