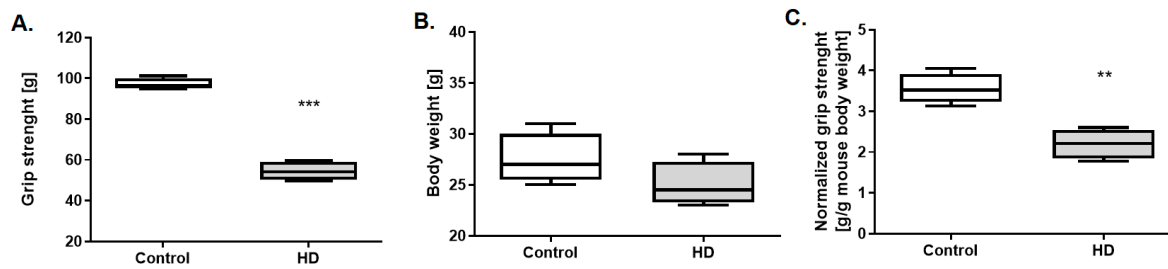
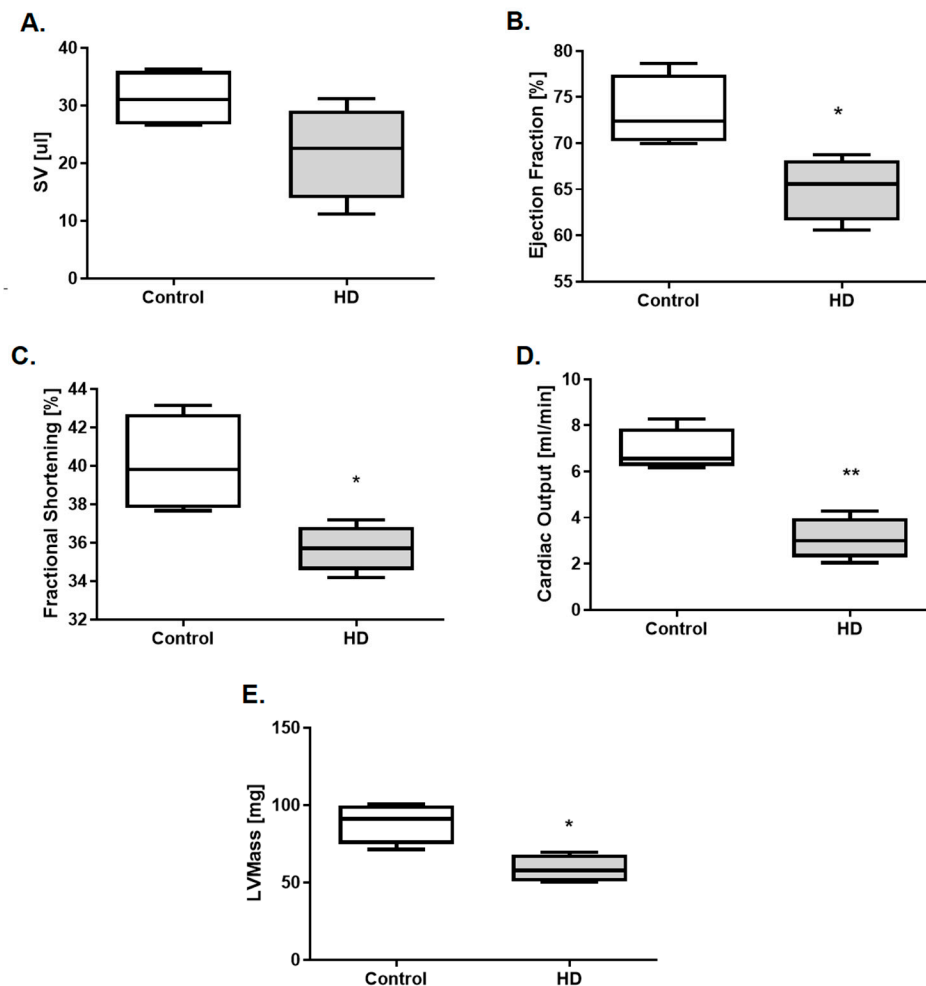


## Supplementary Materials

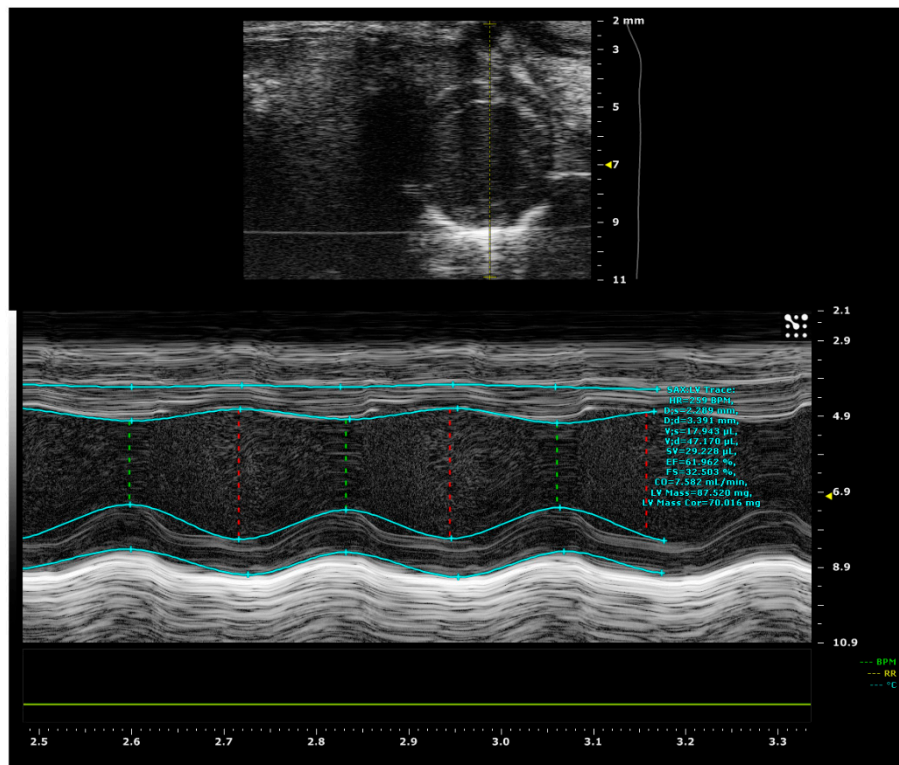


**Figure S1.** Reduced grip strength in R6/1 mice in comparison to healthy controls (C57BL/6J). (A) Maximum fore limb grip strength. (B) Body weight (C) Normalized fore limb grip strength (maximum forelimb grip strength/ g of body weight ) in control and R6/1 mice (HD). Results presented as as mean ± SEM, n = 5-6, \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

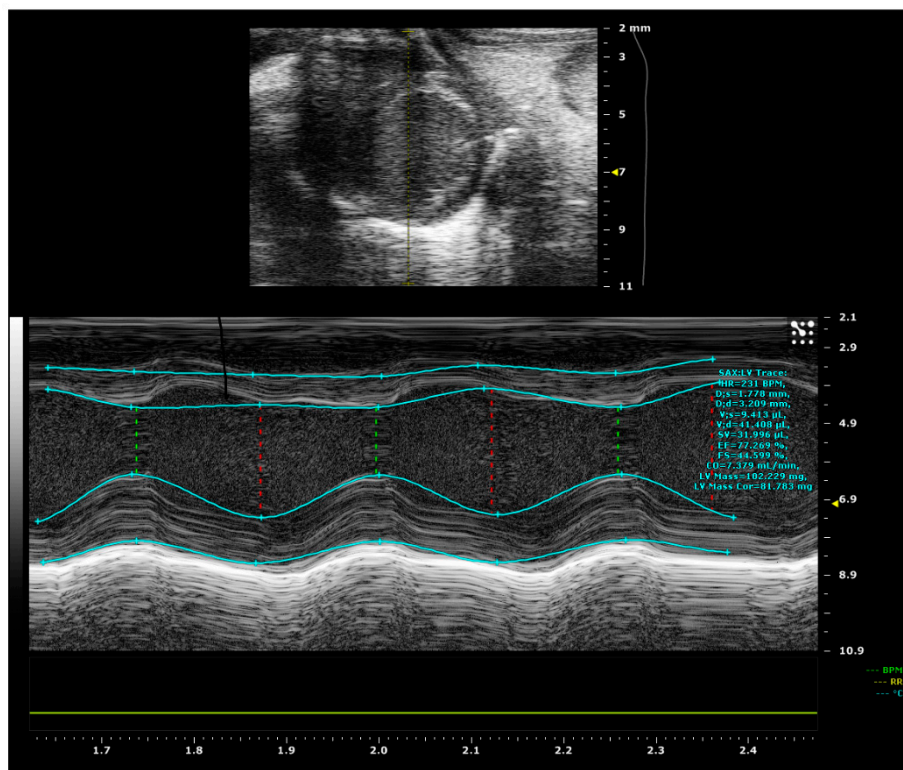


**Figure S2.** Deterioration of heart function in R6/1 mice model. (A) Stroke volume (SV), (B) Cardiac output, (C) Ejection fraction, (D) Left ventricle mass (E) Fractional shortening in wild-type (control) and R6/1 mice (HD). Results presented as mean ± SEM, n = 5, \* $p < 0.05$ , \*\* $p < 0.01$ .

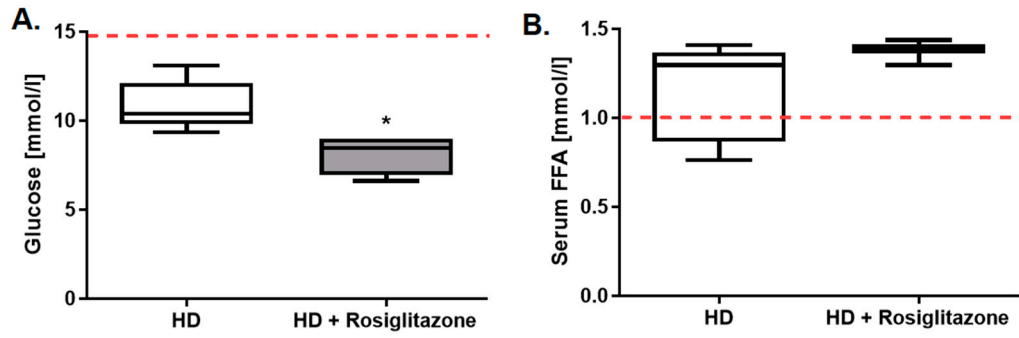
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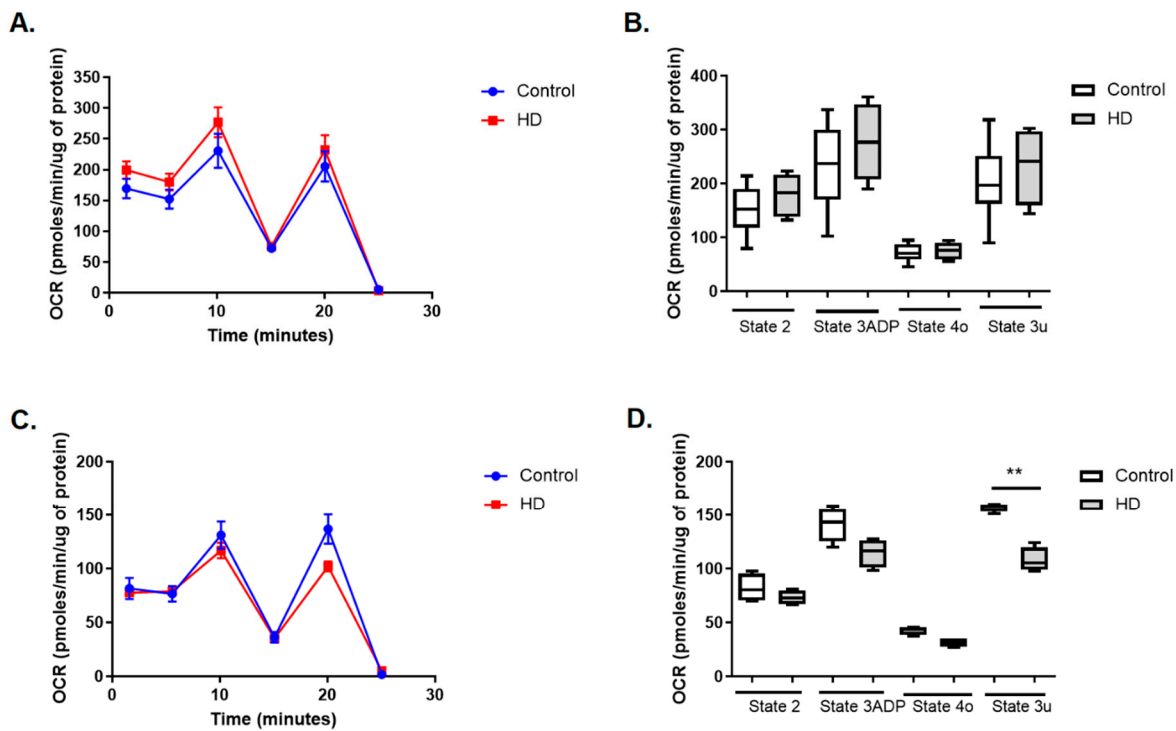
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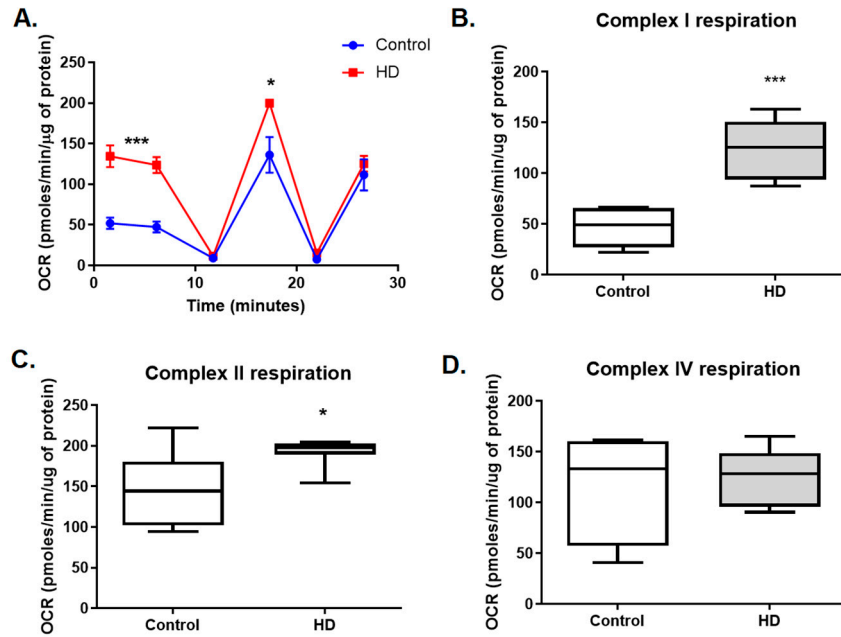
**Figure S3.** Representative echocardiograms from R6/1 mice model (A) and R6/1 mice model treated with rosiglitazone (B).



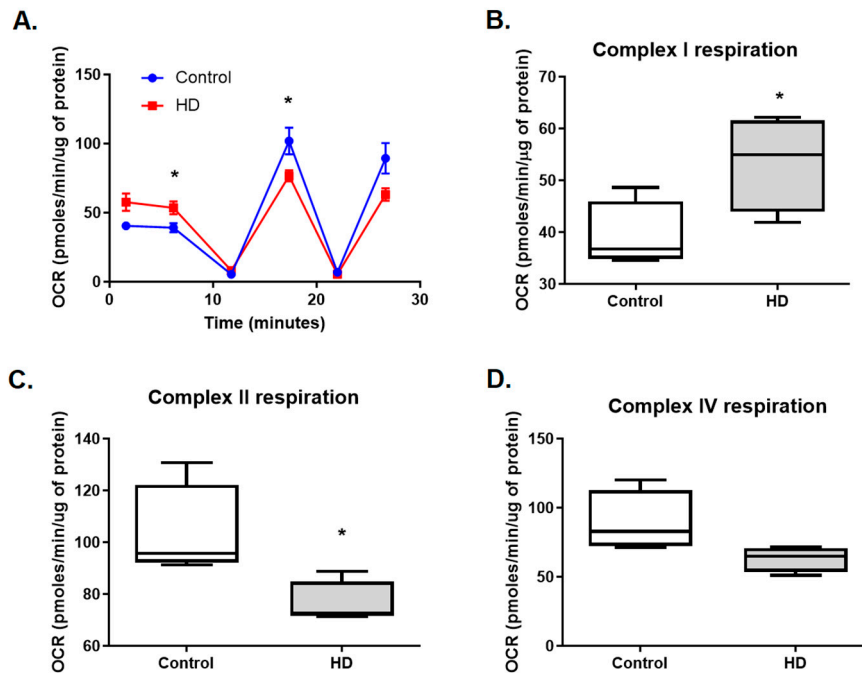
**Figure S4.** Blood glucose (A) and serum free fatty acids (B) concentration in R6/1 mice (HD) as well as HD with Rosiglitazone in 10mg/kg body weight dose treatment (HD+ Rosiglitazone). Data presented as mean  $\pm$  SEM,  $n=6$ , \*  $p<0.05$ . The red dotted lines present the mean value of the investigated parameter in control, C57BL/6J mice (adapted from our previous work:[1])



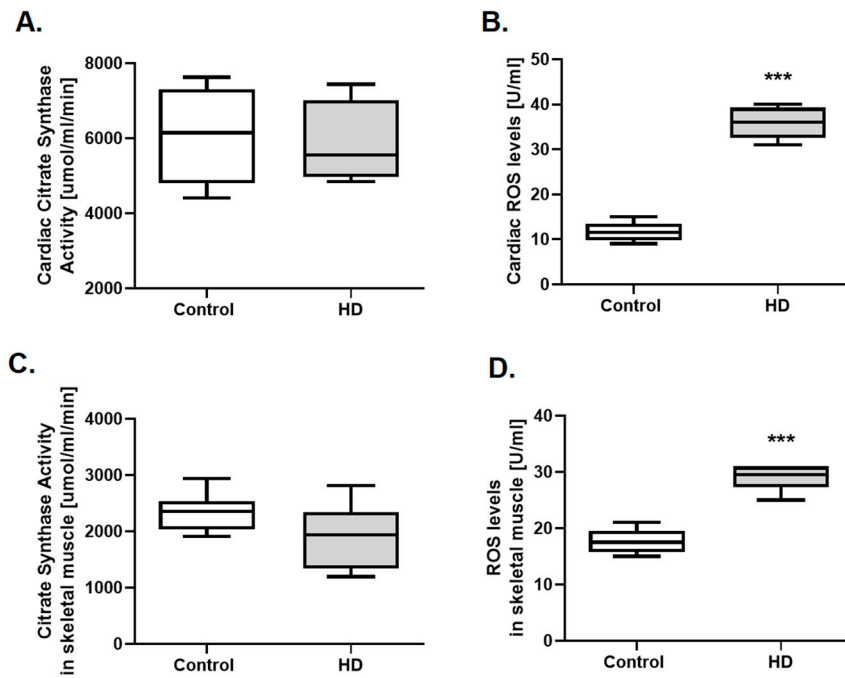
**Figure S5.** Representative Seahorse XF assays on coupled cardiac and skeletal muscle mitochondria isolated from HD and control mice. Graphical presentation of Coupling Assay performed on cardiac (A) and soleus muscle (C) mitochondria, and comparison of individual respiration states in cardiac (B) and skeletal muscle (D) mitochondria of C57Bl/6J (control) and R6/1 (HD) mice. Data presented as as mean  $\pm$  SEM,  $n=4$ , \*\*  $p<0.01$ .



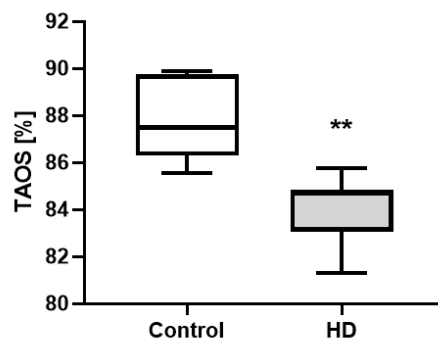
**Figure S6.** Representative Seahorse XF assays on isolated cardiac mitochondria of HD and control mice. (A) An illustrative example of mitochondrial electron flow assay performed on uncoupled cardiac mitochondria. (B) Complex I respiration, (C) Complex II respiration, (D) Complex IV respiration in C57Bl (control) and R6/1 (HD) mice. Data presented as mean  $\pm$  SEM,  $n = 4-6$ , \*  $p < 0.05$ , \*\*\* $p < 0.001$ .



**Figure S7.** Representative Seahorse XF assays on isolated soleus muscle mitochondria of HD and control mice. (A) An illustrative example of mitochondrial electron flow assay performed on uncoupled soleus muscle mitochondria. (B) Complex I respiration, (C) Complex II respiration, (D) Complex IV respiration in C57Bl (control) and R6/1 (HD) mice. Data presented as mean  $\pm$  SEM,  $n = 4-6$ , \*  $p < 0.05$ .



**Figure S8.** Mitochondrial functionality parameters (citrate synthase and ROS) in hearts and skeletal muscle of HD and control mice. Citrate synthase activity in the heart (A) and soleus muscle (C), and Levels of reactive oxygen species (ROS) in hearts (B) and skeletal muscle (D) of C57Bl (control) and R6/1 (HD) mice. Data presented as mean ± SEM, n = 4-6, \*\*\* $p < 0.001$ .



**Figure S9.** Total plasma antioxidant status in C57Bl (control) and R6/1 (HD) mice. Data presented as mean ± SEM, n = 5, \*\* $p < 0.01$ .

## Reference

1. Tomczyk, M.; Braczko, A.; Jablonska, P.; Mika, A.; Przyborowski, K.; Jedrzejewska, A.; Krol, O.; Kus, F.; Sledzinski, T.; Chlopicki, S.; et al. Enhanced Muscle Strength in Dyslipidemic Mice and Its Relation to Increased Capacity for Fatty Acid Oxidation. *Int. J. Mol. Sci.* **2021**, *22*, 12251. <https://doi.org/10.3390/ijms222212251>.