

SUPPLEMENTAL MATERIAL

Supplemental Figure 1. Echocardiographic parameters of HFpEF. **A.** Representative M-mode of parasternal short axis views of echocardiography. **B.** Representative E/A ratio from pulse wave Doppler echocardiography. **C.** Representative E/E' ratio from tissue Doppler echocardiography. **Increased PVC burden in HFpEF rats.** **D.** HFpEF rats showed frequent PVC compared to controls. **E.** Rats with HFpEF more often had frequent PVC (4/13=30.7%) than did controls (1/9=11.1%, p=0.36), but the differences were not significant due to low number of studied animals. **F.** Averaged 24-hour PVC burden was increased in HFpEF rats (3.7±2.3 vs. 0.3±0.3 in controls, p=0.28). **G.** Hourly PVC burden is evidently high in HFpEF rats. **H-I.** PVC from the single control rat were discovered to be unifocal, however PVC from the four HFpEF rats were unifocal (2/4=50%) and multifocal (2/4=50%). **J-K.** Furthermore, HFpEF rats showed high grade PVC compared to controls (0.7±0.2 vs. 0.3±0.3 in controls, p=0.30) when checked with Lown's grading system.

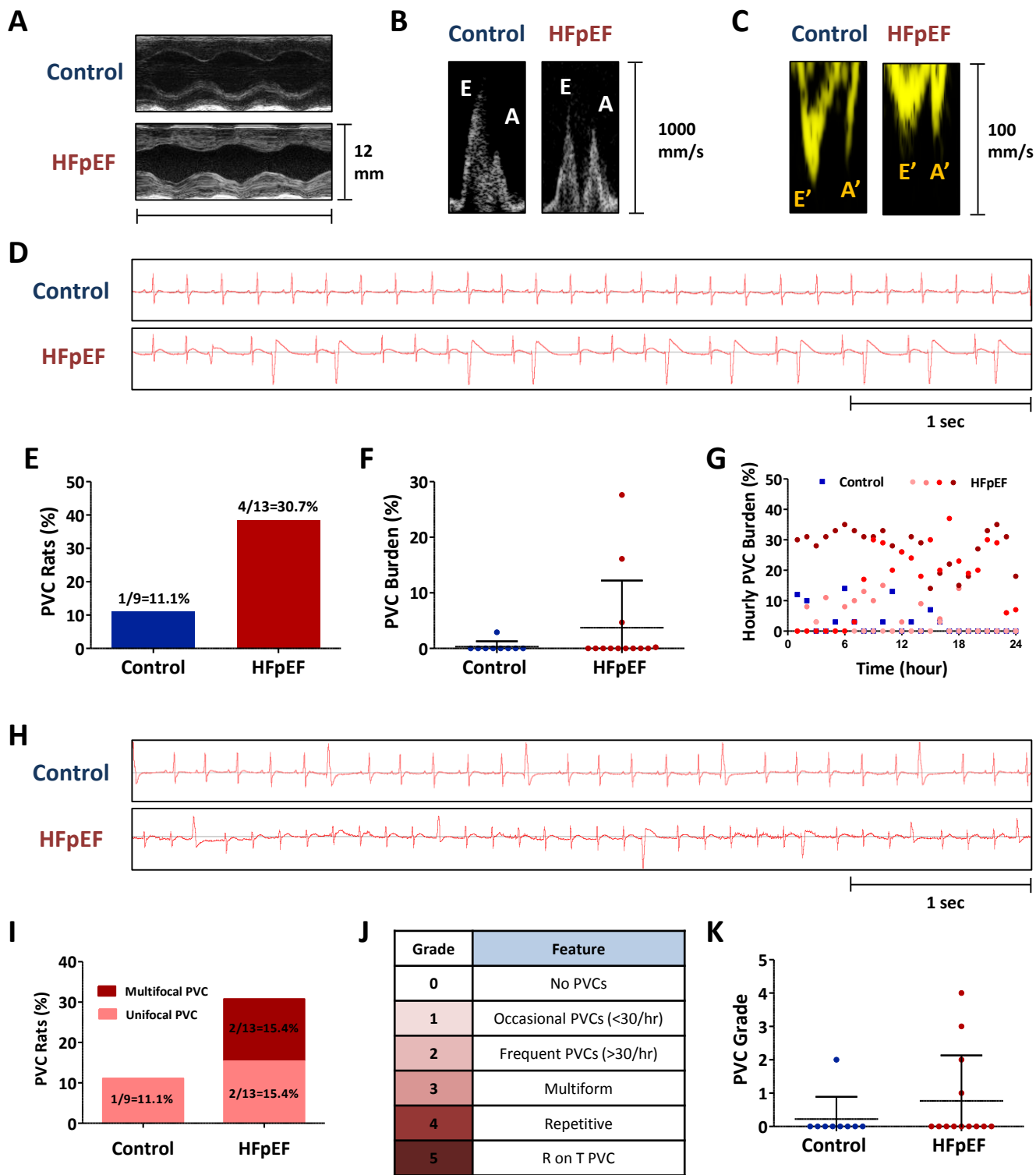
Supplemental Figure 2. Decreased heart rate variability in HFpEF rats. **A.** Representative 24-hour average heart rate in control and HFpEF rats. **B.** SDNN was reduced in HFpEF rats compared to controls. **C.** SDANN was also decreased in HFpEF rats. **D.** Representative Poincare plots of control and HFpEF rats. **E, F.** Reduced SD1 and SD2 in HFpEF rats compared to controls. **G.** Representative fast Fourier transform analysis of control and HFpEF rats. **H, I.** HFpEF rats demonstrated decreased LF and HF spectrum compared to controls. **Electrolytes (Na, K and Ca), pH from arterial blood and creatinine (Cr) in control and HFpEF rats.** **J-L.** Na, K and Ca were all within normal limits in control and HFpEF rats. **M.** Arterial blood sampling showed normal pH in control and HFpEF rats. **N.** Kidney function (Cr) was within normal limits in control and HFpEF rats.

Supplemental Figure 3. Sudden deaths of HFpEF rats associated with VA. **A.** Second case of HFpEF sudden death showed VA as a cause of death. **B.** Third case of sudden death HFpEF rat showed VA at the time of death.

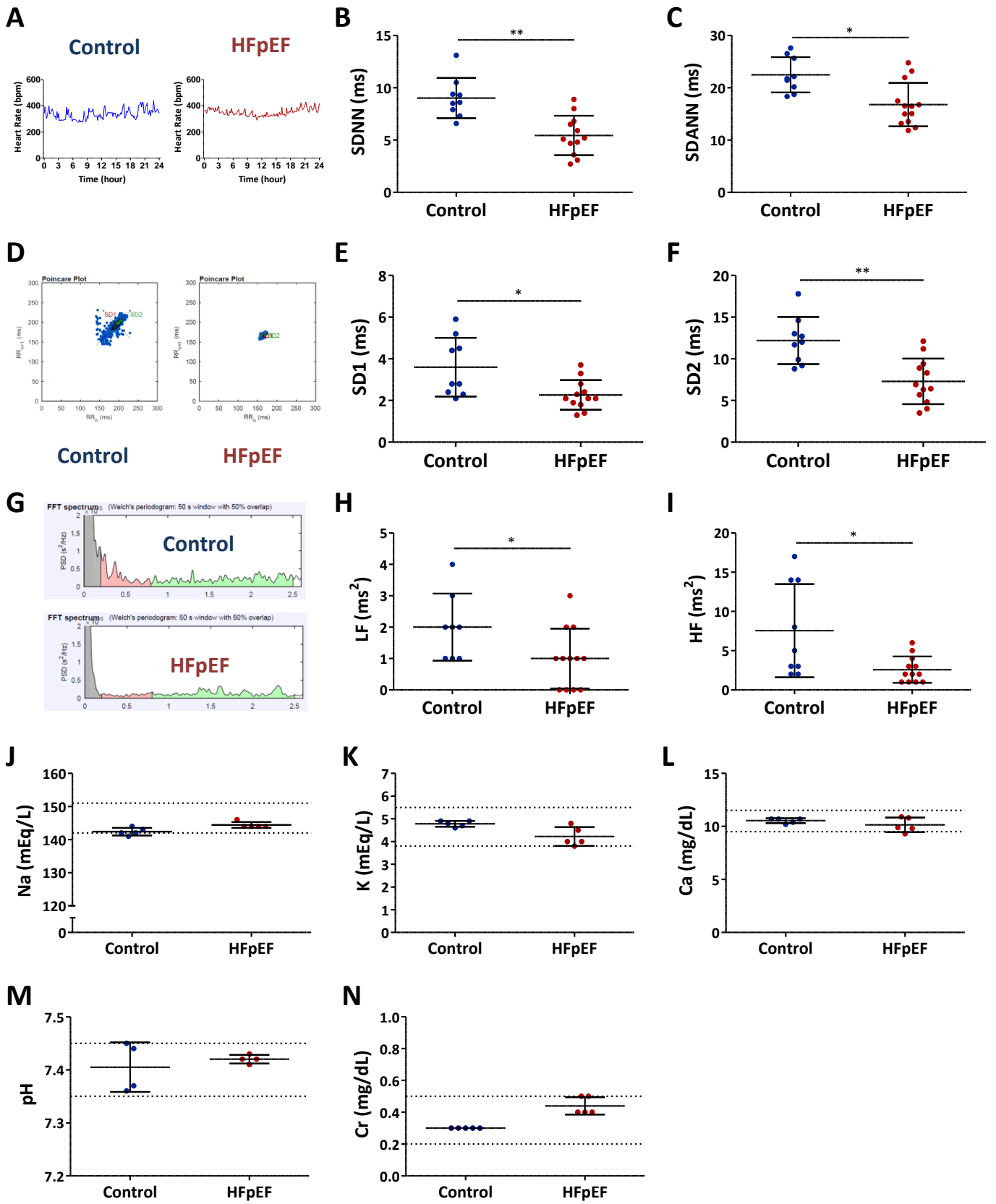
Supplemental Figure 4. Comparison between 9 non-sudden death rats and 4 sudden death rats. **A-F.** There were no significant differences between the two groups in terms of HF score, QTc interval,

SDNN, SDANN, LF and HF. **Characteristics of terminal HFpEF rats at the time of euthanasia. G.**

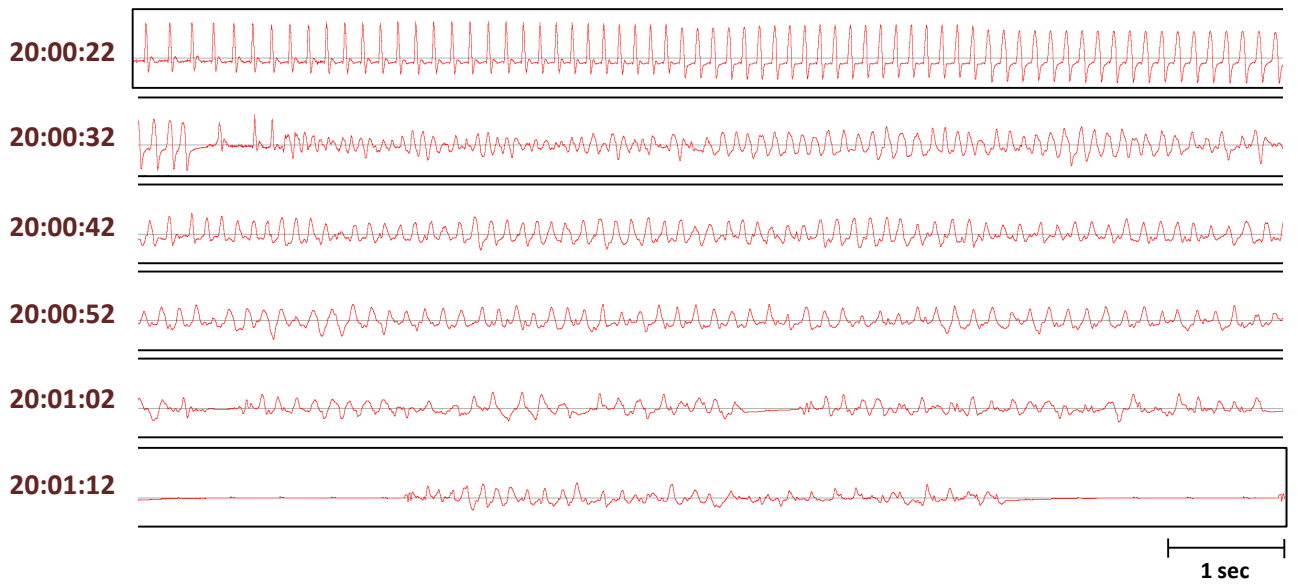
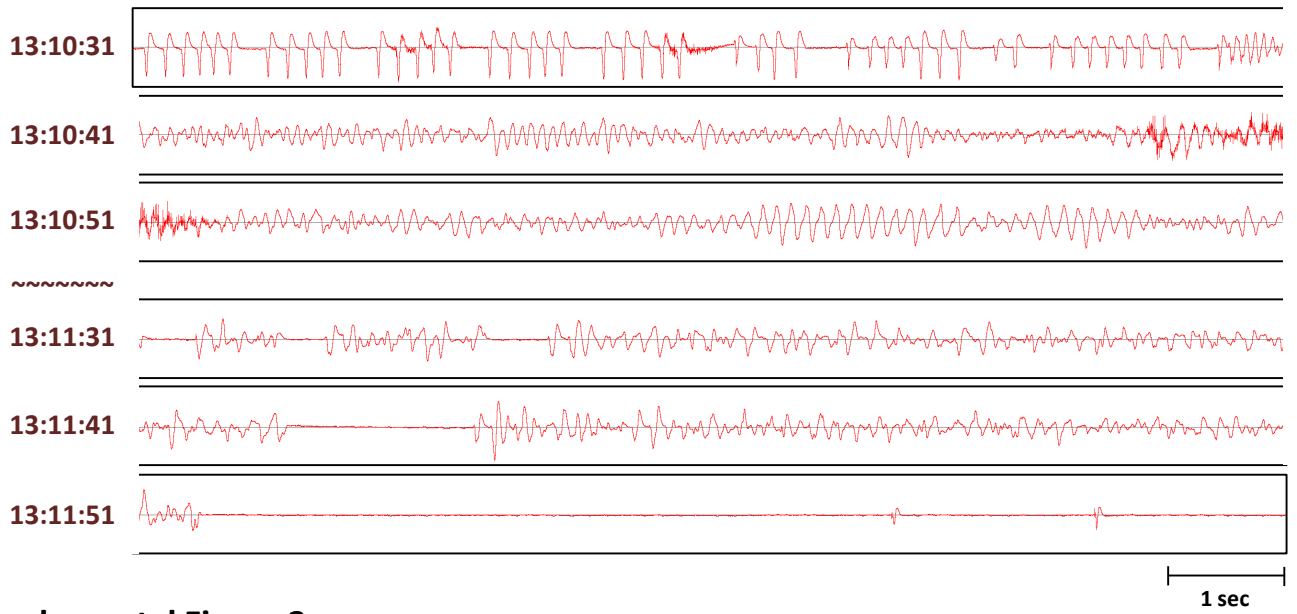
EF were preserved in terminal HFpEF rats. **H-J.** Electrolytes (Na, K and Ca) were all within normal limits in terminal HFpEF rats. **K.** Oxygenation (SaO_2) was normal in the terminal HFpEF rats before euthanasia. **L.** Renal function (Cr) was not impaired in terminal HFpEF rats before euthanasia.

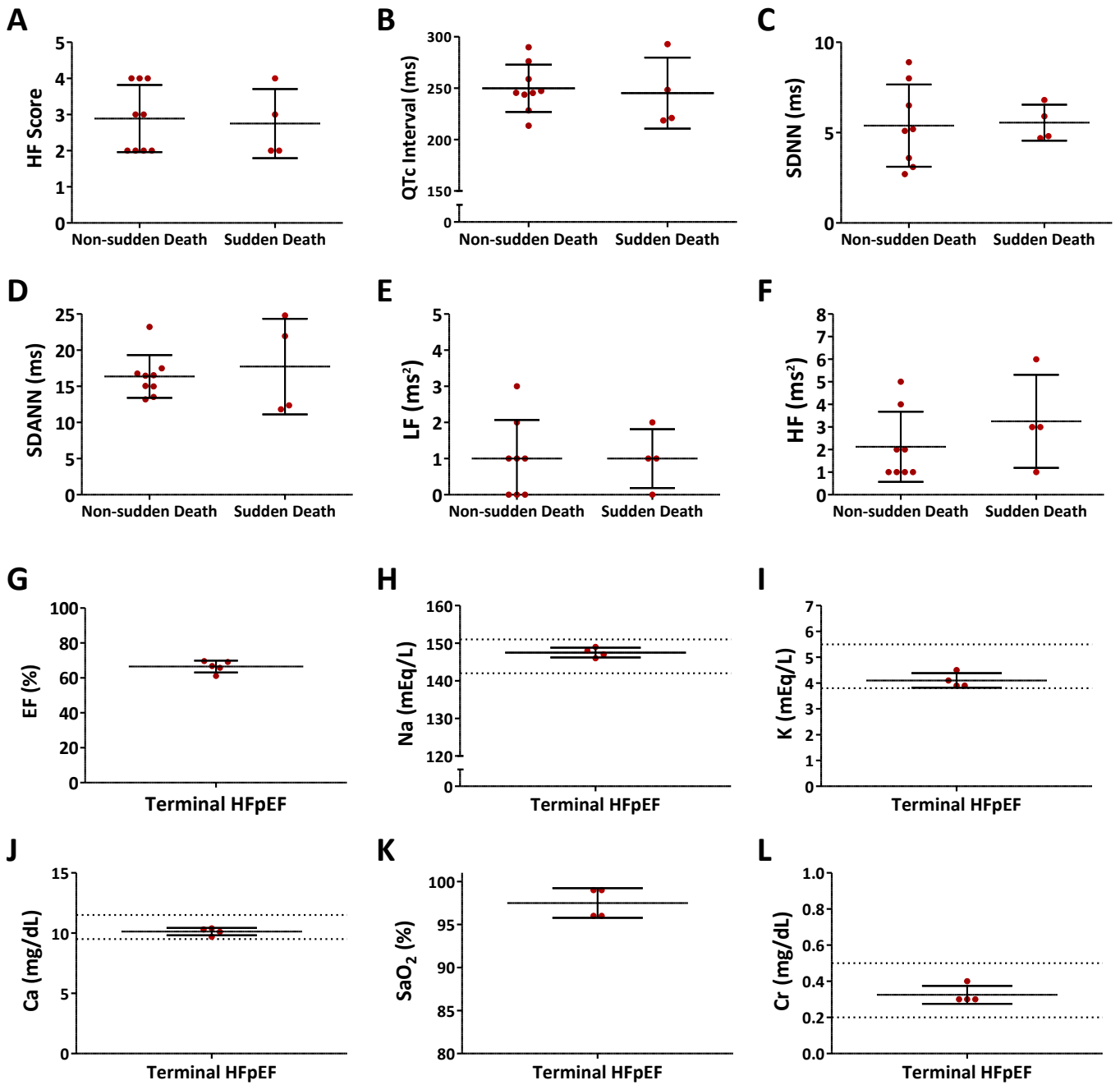


Supplemental Figure 1.



Supplemental Figure 2.

A**B****Supplemental Figure 3.**



Supplemental Figure 4.