Biological Research

CORRECTION

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Correction to: Effects of enriched-potassium diet on cardiorespiratory outcomes in experimental non-ischemic chronic heart failure

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Following publication of the original article [1], the Figs. 2, 3 and 4 are misplaced. The correct order of figures is given in this erratum (Figs. 1, 2, 3, 4, 5, 6).

The original article has been corrected.

The original article can be found online at https://doi.org/10.1186/s40659-021-00365-z.

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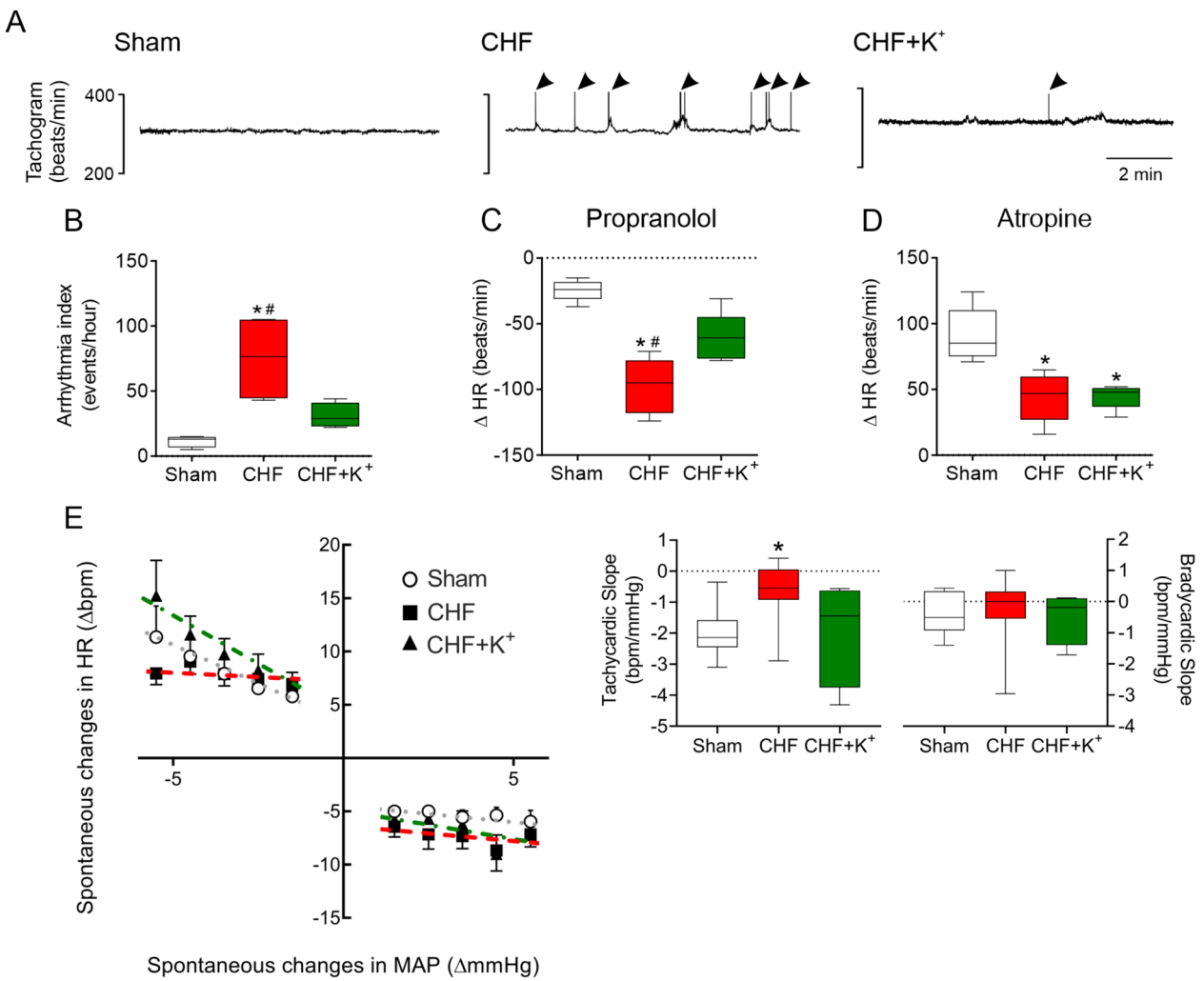

Fig. 1 Dietary K^+ supplementation decreases arrhythmia incidence, cardiac sympathetic tone and improves spontaneous baroreflex in CHF rats. **A** Representative recording of heart rate (HR) tachograms obtained from one Sham rat, one CHF rat and one CHF+K^+ rat. Arrowheads indicate arrhythmic events. Note that K^+ supplemented diet reduces arrhythmic events in CHF. **B** Summary data showing arrhythmia index (events/hour). **C** Heart rate responses (ΔHR) after sympathetic blockade with propranolol (1 mg/kg). **D** ΔHR after parasympathetic blockade with atropine (1 mg/kg). **E** Baroreflex sensitivity (BRS) during spontaneous changes in HR and mean arterial pressure (MAP). Each dashed line represents the tachycardic or bradycardic slope. *P < 0.05 vs Sham, #P < 0.05 vs CHF+K^+. Holm Sidak post hoc after One-Way ANOVA, n = 5 rats per group

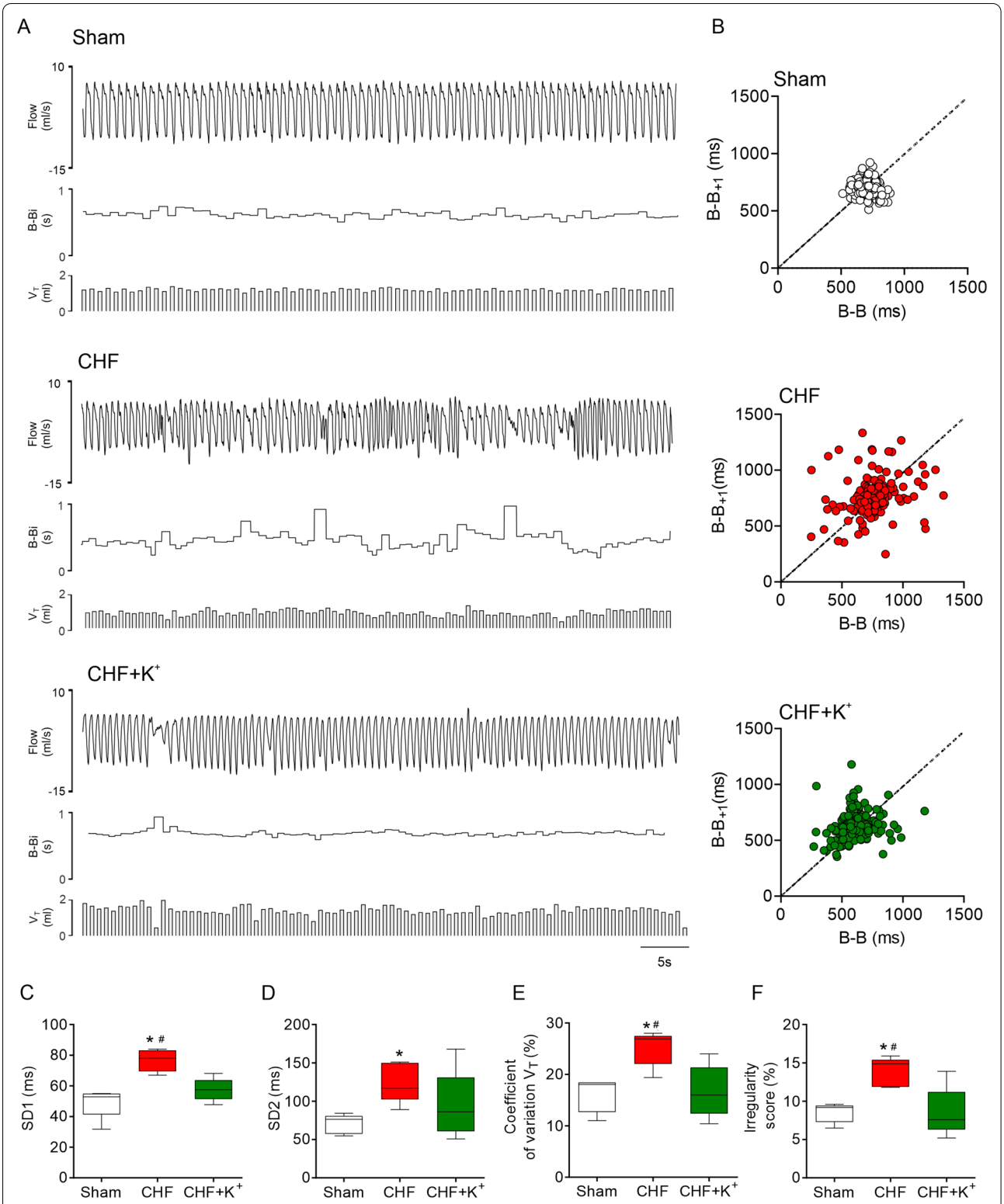

Fig. 2 Daily dietary K^+ supplementation improves breathing in CHF rats. **A** Representative ventilation recordings of ventilatory flow (ml/s), breath-to-breath interval ($B–B_i$, s) and tidal volume (V_T, ml) obtained from one Sham rat, one CHF rat and one CHF+K^+ rat. **B** Representative Poincare plots showing $B–B_i$ variability. **C**–**D** Summary data displaying SD1 and SD2 in all groups. Note that irregularity of $B–B_i$ in CHF is markedly improve by dietary K^+ supplementation. **E** Summary data showing changes in breathing irregularity score (%). **F** Coefficient of variation of V_T amplitudes (%). K^+ supplemented diet significantly reduces V_T oscillations in CHF. *P < 0.05 vs Sham, $^{\#}$P < 0.05 vs CHF+K^+. Holm Sidak post hoc after One-Way ANOVA, n = 5 rats per group

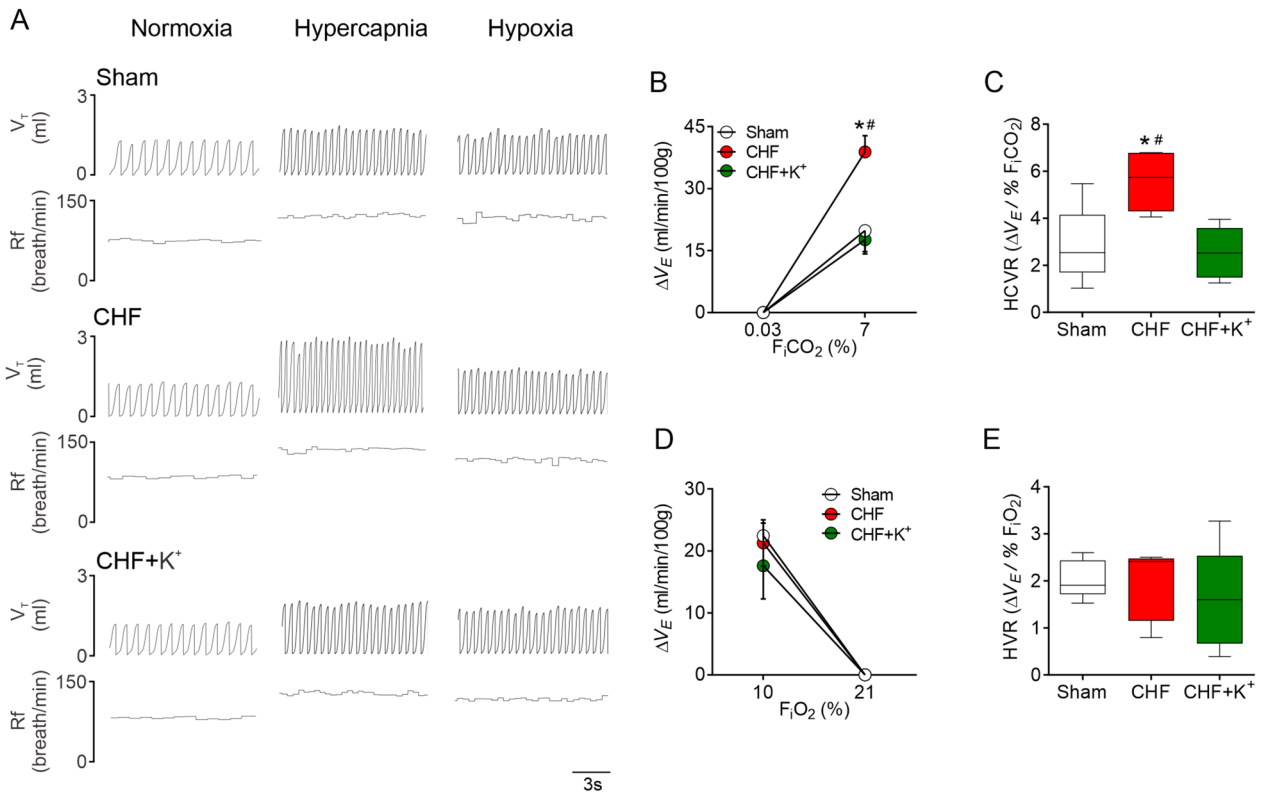

Fig. 3 Central chemoreflex drive is normalized by K^+ supplementation in CHF rats. **A** Representative recording of tidal volume (V_T) and respiratory frequency (Rf) during normoxia (F_iO_2 21%), hypercapnia (F_iCO_2 7%) and hypoxia (F_iO_2 10% in one Sham rat, one CHF rat and one CHF+K^+ rat. **B**–**C** Summary data showing the magnitude (ΔV_E, ml/min/100 g) and gain ($\Delta V_E/\%F_iCO_2$) of the ventilatory response to hypercapnia (HCVR). Note that K^+ supplementation totally restored normal HCVR in CHF rats. **D**–**E** Summary data showing the magnitude (ΔV_E, ml/min/100 g) and gain ($\Delta V_E/\%F_iO_2$) of the hypoxic ventilatory response (HVR). *P < 0.05 vs Sham, #P < 0.05 vs CHF+K^+. Holm Sidak post hoc after One-Way ANOVA, n = 5 rats per group

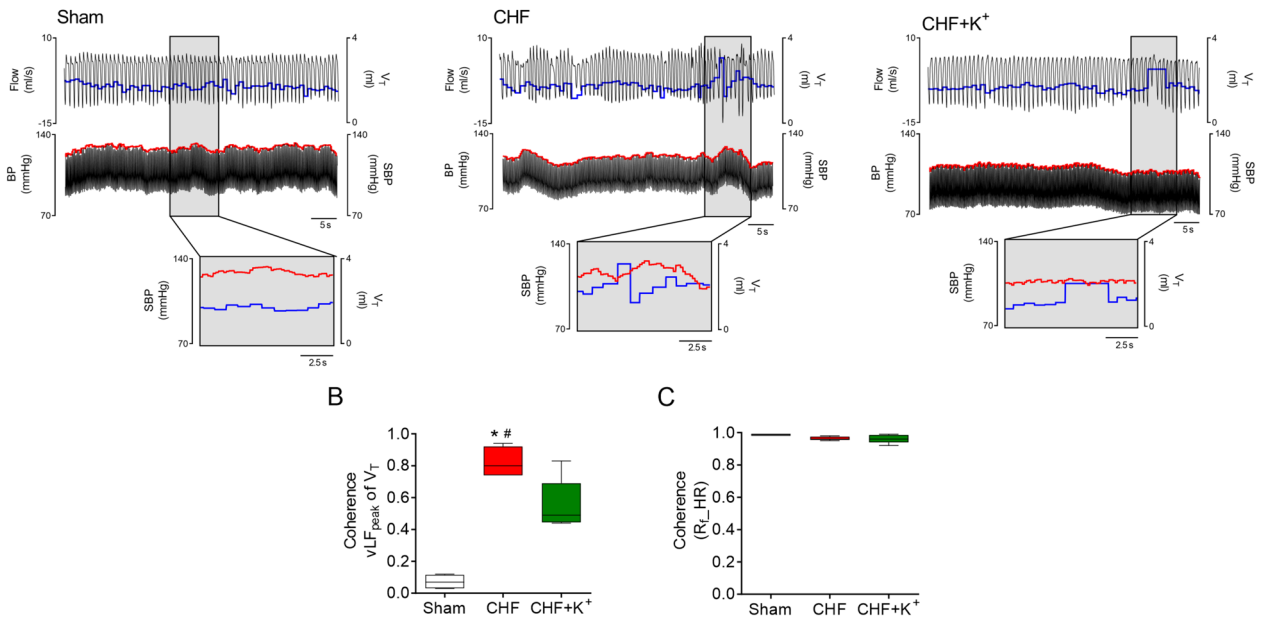

Fig. 4 Dietary K^+ supplementation attenuates cardiorespiratory coupling in CHF. **A** Representative traces of ventilatory flow (Flow, ml/s) and arterial blood pressure (BP, mmHg) in one Sham rat, one CHF rat and one CHF+K^+ rat. Tidal volume (V_T) is marked in blue while systolic blood pressure (SBP, mmHg) is shown in red. Note that in CHF rats, oscillations in ventilation are phase with increases in SBP, reflecting a positive interaction between signals. **B** Summary data showing the magnitude of coherence between V_T and SBP centered at the very low frequency (vLF) peak of V_T. **C** Summary data showing coherence function between respiratory frequency (R_F) and heart rate (HR). *$P < 0.05$ vs Sham, $^{\#}P < 0.05$ vs CHF+K^+. Holm Sidak post hoc after One-Way ANOVA, n = 5 rats per group

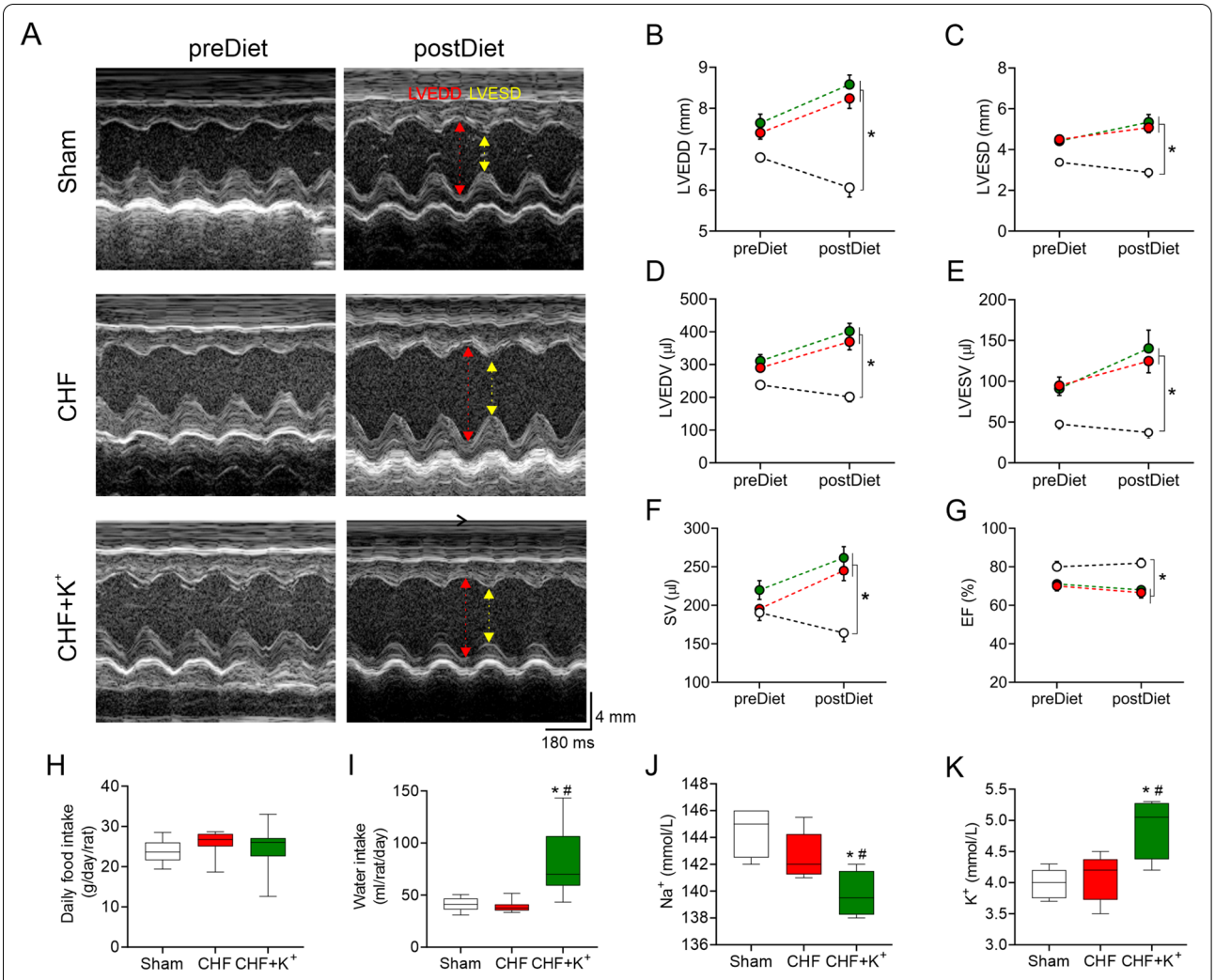

Fig. 5 Echocardiographic parameters and plasmatic Na^+ and K^+ concentration. **A** Representative echocardiography image of the left ventricle (LV) from one rat per group. LV-end systolic diameter (LVESD, yellow arrow) and LV-end diastolic diameter (LVEDD, red arrow). **B** LVEDD. **C** LVESD. **D** LV-end diastolic volume (LVEDV). **E** LV-end systolic volume (LVESV) (**F**) Stroke volume (SV). **G** Ejection fraction (EF). Note that K^+ dietary supplementation has no effects on cardiac diameters and volumes in CHF condition. (**H**) Daily food (g/day/rat) and **I** water intake (ml/rat/day) in Sham, CHF and CHF+K^+ groups. **J** Summary data showing sodium (Na^+) and **K** potassium (K^+) ion concentration (mmol/L) in all groups. Note that Na^+ concentration decreases in CHF+K^+ while K^+ concentration is significantly higher. *$p < 0.05$ vs Sham, $^{\#}p < 0.05$ vs CHF.Holm Sidak post hoc after One-Way ANOVA, n = 5 rats

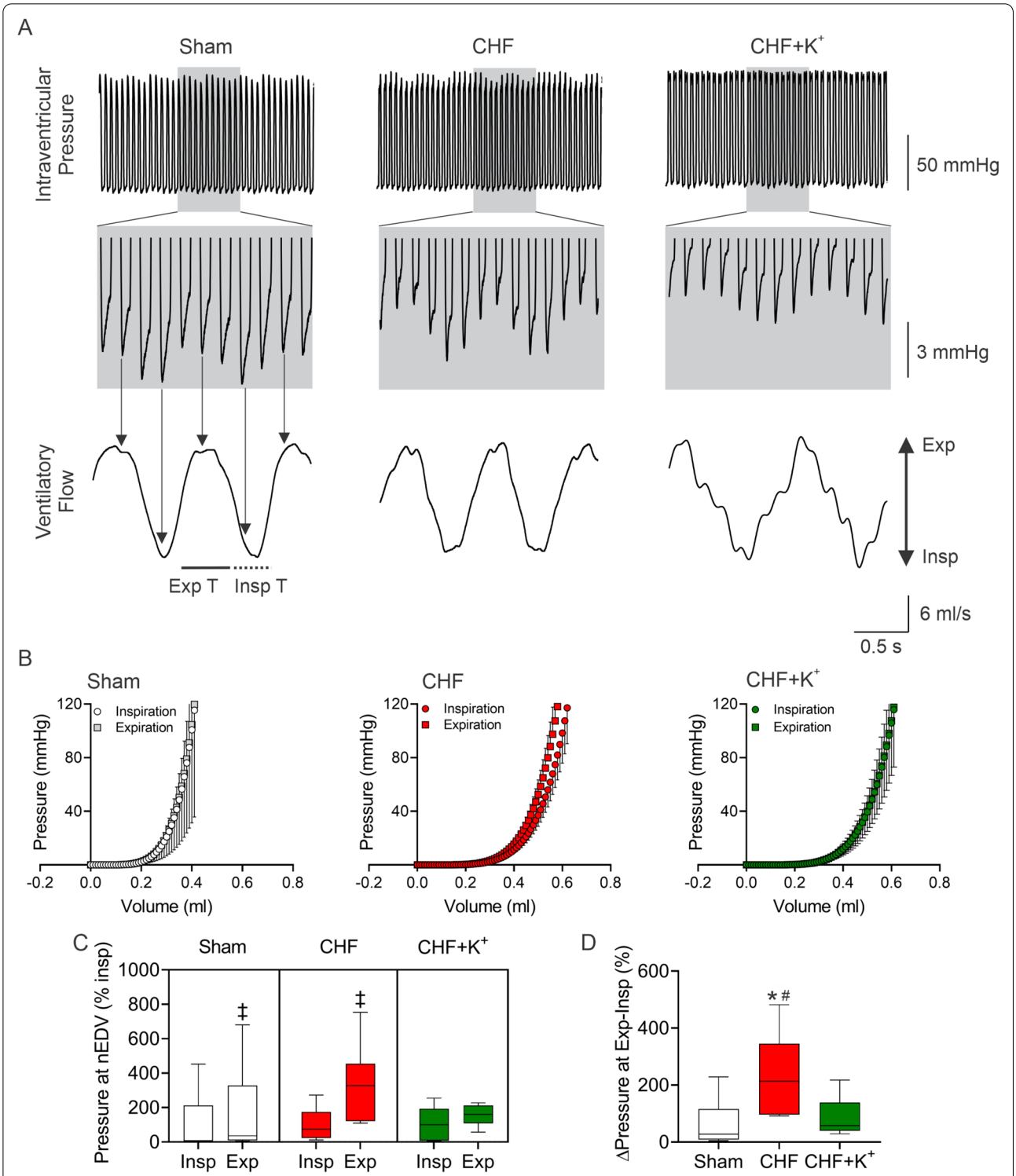

Fig. 6 Dietary K^+ supplementation improves cardiac diastolic function in CHF rats. **A** Representative recording of left ventricle (LV) intraventricular pressure from one Sham rat, one CHF rat and one CHF+K^+ rat (Upper panel). Lower panel shows ventilatory flows in each section. Note that end diastolic pressure (EDP) is modulated by the ventilatory cycle. **B** End diastolic pressure volume relationship assessed by single-beat PV-loop analysis during the expiratory and inspiratory phases of the breathing cycle. **C** Summary data of normalized EDP (nEDP) during inspiration and expiration. Note that the EDP was severely modulated by the ventilatory cycle in CHF rats and this was abolished by K^+ diet supplementation. **D** Summary data showing percent changes in Δintraventricular pressures at Exp-Insp. Two-way ANOVA (**C**) and One-way ANOVA (**D**), followed by Holm Sidak *posthoc*. $^{‡}P < 0.05$ vs. Insp; $^{*}P < 0.05$ vs. Sham, $^{\#}P < 0.05$ vs CHF+K^+ n = 5 rats per group

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Reference

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