data indicate that DHA can blunt the detrimental effects of D2M on autophagy response in rat cardiac tissue. (n=3). One-way ANOVA with Tukey post hoc analysis. *p<0.05

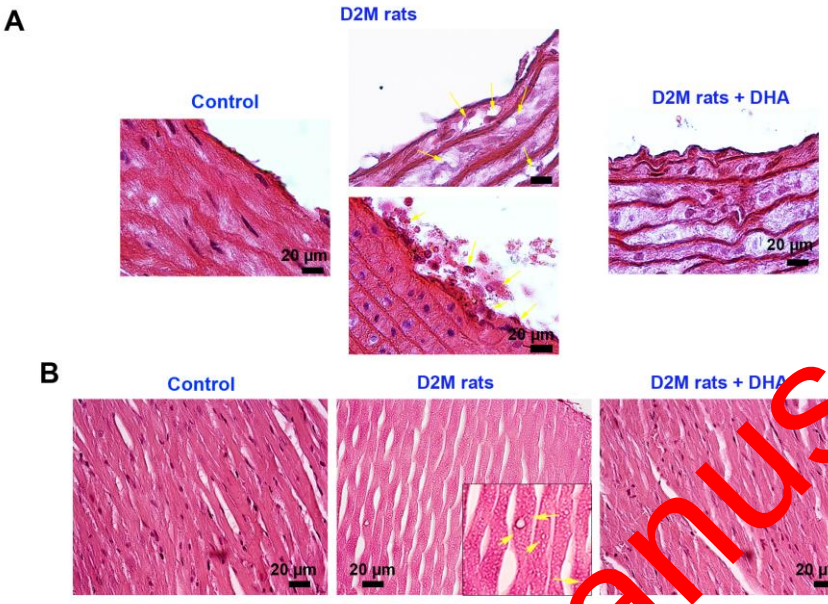

Figure 3. Histological examination of the aorta and cardiac samples in D2M after injection of DHA (**A-B**). Bright-field images show that the induction of D2M can lead to the accumulation of intracellular vacuoles (fat droplets; yellow arrows) in vascular smooth muscles, resulting in pathological hypertrophy (**A**). Along with changes, ECs at luminal surfaces are dislodged and detached from beneath the muscular layer after being exposed directly to diabetic serum (**A**). Data indicated that DHA can diminish EC injury and hypertrophic changes in tunica media after 6 weeks. The induction of D2M contributes to the accumulation of numerous small-sized intracardiomyocyte vacuoles. Data confirmed that DHA can reduce these changes and return to near-to-normal conditions.

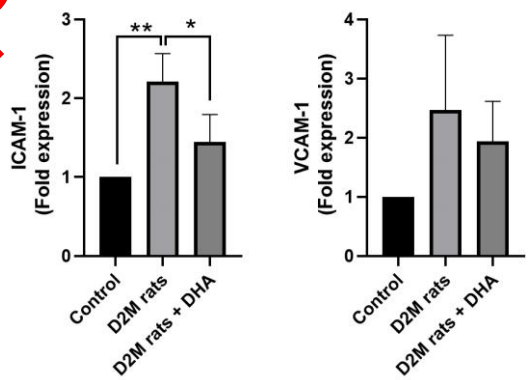

Figure 4. Monitoring the expression of ICAM-1 and VCAM-1 in diabetic heart samples using real-time PCR analysis. The induction of D2M increased the significant and non-significant expression of ICAM-1 and VCAM-1 in rat cardiac tissue compared to the healthy control rats. The application of DHA can diminish the unwanted expression of ICAM-1 and VCAM-1 and close to normal condition values. (n=3). One-way ANOVA with Tukey post hoc analysis. *p<0.05; and **p<0.01