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Heart Failure and Cardiomyopathies

CARDIOPROTECTIVE EFFECT OF CANNABIDIOL IN A NON ISCHEMIC MODEL OF HEART FAILURE

Poster Contributions
Posters Hall_Hall A
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Background: CBD has known anti-inflammatory actions. We assessed the potential benefits of CBD in a non-ischemic murine model of heart failre (HF).

Methods: CBD was administered subcutaneously (SC) /3rd day/4 weeks. Cardiac tissue was evaluated for fibrosis, myocyte hypertrophy and expression of mRNA markers for remodeling /inflammation. We studied the in vitro anti-hypertrophic effects using H9c2 cells, by assessing changes in cell area and mitochondrial oxidative stress.

Results: A dose-dependent reduction of remodeling and inflammation was observed using CBD. This included a decrease in fibrosis as shown in Fig. 1A, reduction of myocyte hypertrophy, and lower tissue expression of BNP, collagen 1, IL1β and IL6 (Fig 1B). At a cellular level, CBD reversed the hypertrophic effects of Angiotensin II, reducing cell area size (Fig. 1C) and mitochondrial anion superoxide.

Conclusion: Our findings support the role of CBD as a cardioprotective therapy in chronic HF. The potential mechanisms involve several pathways of proliferation and survival leading to an anti-inflammatory and anti-hypertrophic phenotype.