

I_{Ca-L} was recorded via whole-cell patch clamp technique in enzymatically dissociated single cardiomyocytes.

Results In diabetes group, values of LVDP, LVEDP, (dp/dt_{max}) and CF were all significantly decreased, and dp/dt_{min} were increased (compared with normal control group, $p < 0.01$, respectively). But every parameter mentioned above such as LVDP, LVEDP, dp/dt_{max} , CF was increased, and dp/dt_{min} was obviously decreased in FOB diabetes group (compared with diabetes group, $p < 0.01$, respectively). Fluorescence intensities of intracellular free Ca^{2+} were markedly stronger after influence of I/R injury (compared with normal control group, $p < 0.01$). Current density of I_{Ca-L} was significantly decreased, and I-V curve was changed up to the top, as soon as the peak clamp potential was -30 mV with same I/R condition in diabetes rats. In FOB diabetes group, fluorescence intensities of intracellular free Ca^{2+} were significantly reduced in I/R injury procedure (compared with diabetes group, $p < 0.01$). I_{Ca-L} was partly recovered near normal control group, and I-V curve was changed among normal control and diabetes group. When clamp voltage was -20 mV, the current densities of I_{Ca-L} were significantly decreased from (-8.17 ± 2.07) pA/pF in normal control group to (-3.21 ± 0.54) pA/pF in diabetes group ($p < 0.01$). (-7.14 ± 2.17) pA/pF in FOB control group (compared with normal control, $p > 0.05$, and (-6.81 ± 0.76) pA/pF in FOB diabetes (compared with normal group, $p < 0.05$, and with diabetes group, $p < 0.01$, and with FOB control group, $p > 0.05$).

Conclusion Poor heart function was tightly correlate to that $(Ca^{2+})_i$ was increased and I_{Ca-L} was decreased with I/R injury in diabetes rat hearts. FOB- treated could significantly inhibit I/R injury induced severely cardiac performance, which was attributed to that FOB might adjust I_{Ca-L} influx, and normalise balance of intercellular $(Ca^{2+})_i$, as soon as blocked Ca^{2+} overload triggered by effects of Ca^{2+} -induced Ca^{2+} release in diabetes cardiomyocytes.

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EFFECTS OF FISTULAR ONION BULB EXTRACT ON ISCHEMIA/REPERFUSION INJURY IN CARDIOMYOCYTES OF STREPTOZOTOCIN-INDUCED DIABETES MULLITUS RATS

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Objective To investigate effects of fistular onion bulb extract (FOB) preventing ischemia/reperfusion (I/R) injury in cardiomyocytes of streptozotocin-induced diabetes mellitus rats.

Methods Diabetes rats by streptozotocin-induced were fed FOB (100 g/kg/day) from six to 14 week of age. Hearts models of I/R which randomly divided into control group, diabetes group, FOB control and diabetes groups were observed changes of heart function through using Langendorff-perfusion system. Fluorescence intensity of intracellular Ca^{2+} was detected with Flup-3/AM loading by laser scanning confocal microscope.