

EFFECT OF CALRETICULIN ON HIPPOCAMPUS OF POST-TRAUMATIC STRESS DISORDER RATS

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Objective: To detect molecular chaperone calreticulin(CRT) expression on the hippocampus in the rat model of post-traumatic stress disorder(PTSD), and discuss the regulation of CRT on Ca^{2+} in hippocampus of PTSD rats, further provide the experiment basis for pathogenesis of memory anomaly in PTSD rats.

Methods: The single-prolonged stress(SPS) is one of the animal models was used to set up the rat PTSD models. Male Wistar rats were randomly divided into 1, 4, 7 days groups after exposure to SPS and a normal control group. The expression of CRT was detected by using immunohistochemistry, Western blotting and RT-PCR. The intracellular free calcium was examined by fluorescence spectrophotometer.

Results: The expression of CRT in the hippocampus obviously increased after SPS stimulation, and reached the peak at SPS 4d. The intracellular free calcium level in the hippocampus obviously increased, and reached the peak at SPS 1d, then gradually decreased.

Conclusions: PTSD caused endoplasmic reticulum stress(ERS), calcium overload, up-regulated expression of CRT, activation of unfolded protein response(UPR), which maybe result in cell apoptosis and maybe the pathogenesis basis on memory anomaly in PTSD rats.