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EFFECTS OF CP-154,526 AND VERAPAMIL ON CORTICOTROPHIN RELEASING FACTOR SECRETING LEVELS

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Background and aims: We discovered that plasma corticotrophin releasing factor (CRF) levels in the young rats with hypoxic-ischemia (HI) brain damage were changeable, which was related with the time of HI. In present study, we will explore the effects of CRF acceptor 1 (CRF-R1) antagonist CP-154,526 (CP) and Ca^{2+} ion pathway antagonist Verapamil (VP) on plasma CRF secreting levels in the young rats after hypoxic-ischemia for one day.

Methods: Eighty young rats were randomly divided into eight groups, the normal control groups, sham operated groups, CP control groups, VP control groups, model groups, HI+CP groups, HI+VP groups and HI+CP+VP groups are set. Plasma CRF levels of young rats in all groups were measured by radioimmunoassay.

Results: Compared with the normal control groups, sham operated groups, CP control groups, VP control groups, plasma CRF levels in the model groups, HI+CP groups, HI+VP groups and HI+CP+VP groups all significantly decreased (P Values all than less 0.001). Compared with the HI groups, plasma CRF levels in the HI+CP groups ($P < 0.05$) and HI+VP groups ($P < 0.001$) all significantly increased. Compared with the HI+CP groups, plasma CRF levels in the HI+VP groups ($P < 0.001$) significantly increased. Compared with the HI+VP groups, plasma CRF levels in the HI+CP+VP groups ($P < 0.001$) significantly decreased.

Conclusions: CRF-R1 antagonist CP or Ca^{2+} ion pathway antagonist VP can promote CRF secreting levels in the young rats after hypoxic-ischemia for one day, but when the CP and VP were simultaneously used, and CP can deteriorate the CRF secreting levels.