

suggested, use of antioxidants and free radicals scavengers is under attention. Doxycycline has antiischemic properties in a few researches. We examined the possibility of additive effect of ascorbic acid on antiischemic effect of doxycycline in rat brain.

Methods: Adult male Wistar Rats weighing 250-350 grams were used. All Rats were kept under constant condition with food and water available ad libitum. The animals were divided into 5 groups of 6. Ischemia induction: Brain global ischemia was done using four vessel occluding (4VO)

Methods: Briefly after incision in skin, the alar foramen exposed and vertebral arteries were permanently cauterized and next day the carotid arteries were occluded for 20 min. Tissue preparation: brain removed and immediately fixed with formaldehyde %10. Thin slice (2-4 Microns) prepared. Group 1 was negative control and 1 mg normal saline injected IP. Group 2 was the positive control and 100mg/kg phenytoin as a standard neuroprotective agent was injected. Group 3 doxycycline 45 mg/kg was injected. Group 4 give ascorbic acid 100 mg/kg and group 5 were injected with two drugs simultaneously as same dose for 72 hrs. every 12hrs.

Result: In first group, ischemia and necrosis of CA1, CA2 and CA3,4 occurred. In group 2 and 3 treated with phenytoin and doxycycline, slightly ischemic changes was seen only in CA1 area. In group 4 some degree of necrosis seen but in group 5 the changes was compatible with group 2 (phenytoin).

Keywords: antiischemia, stroke, doxycycline, ascorbic acid, rat



Expression of glial markers in bone marrow-derived oligodendrocyte-like cells induced by thyroid hormone

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Introduction: The induction of bone marrow stem cells in to neural and glial phenotypes was documented; however the yield was low. In this research we tried to increase the yield of oligodendrocyte-like cells by production to neurospheres derived from bone marrow stem cells; then neural stem cells were isolated from neurospheres and induced in to oligodendrocyte-like cells.

Material-Method: in this study BMSCs of adult female rats were expanded and then was induced in to form neurospheres in the presence of B27, epidermal growth factor (EGF) and basic fibroblast growth factor (bFGF), and subsequent isolation of neural stem cells. This was followed by induction into oligodendrocyte like cells with heregulin, PDGF-AA, bFGF and T₃ Which are used for transdifferentiation of neural stem cells into oligodendrocyte like cells. After induction the expression profile showed O1, O4, oligo2 and MBP neurofilaments. Also the expression of OCT4, TBP, MOG and PDGFR- α mRNA was noticed using RT-PCR technique.

Results: The Immunohistochemical and RT-PCR studies showed expression the using fibronectin, CD44, CD90, CD45, Oct-4 and TBP which indicated that following 4th passage, a 94% percentage of cultured cells were BMSCs. The