



The effect of mesenchymal stem cell conditioned media on *in vitro* model of cerebral ischemia

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Background and Aims: Mesenchymal stem cells have been reported to secrete a variety of cytokines and growth factors acting as trophic suppliers. The present study was designed to investigate the effects of conditioned media from mouse bone marrow mesenchymal stem cell on the cell death induced by oxygen-glucose deprivation in PC12 cells.

Methods: we used PC12 cells were exposed to 30 minutes oxygen-glucose deprivation in the presence or absence of mesenchymal stem cell-conditioned medium, derived from mouse bone marrow. The cytotoxic effect was assessed using a tetrazolium based colorimetric assay (MTT assay).

Results: Our results suggest that the exposure of PC12 cells to 30 min oxygen-glucose deprivation significantly decreased cell viability. Pretreatment of the cultures with conditioned medium obtained from bone marrow-derived mesenchymal stem cell significantly attenuated cell death ($P < 0.05$)

Conclusions: The findings confirm that mesenchymal stem cell-conditioned medium has protective effects against OGD-induced neurotoxicity. Moreover, it seems that this effect is mediated through the cytokines and growth factors.

Keywords: Mesenchymal stem cell conditioned media; PC12 cells; Oxygen-glucose deprivation