導痰湯合聰明湯이 LPS로 처리된 microglia 및 기억력 감퇴 생쥐 모델에 미치는 영향

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The Effects of *DoDamTanghapChongMungTang*(Daotantanghecongmingtang) on LPS induced-Microglia and Memory Deficit Mice Model

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**Abstract**

**Objectives:** This experiment was designed to investigate the efficacy of DDTCMT hot water extract & ultra-fine powder on Alzheimer’s Disease Model.

**Methods:**
The effects of the DDTCMT hot water extract on expression of IL-1β, IL-6, TNF-α, COX-2, iNOS, IL-10, IL-1 receptor antagonist mRNA and production of IL-1β, IL-6, TNF-α in BV2 microglial cell line treated by lipopolysaccharide(LPS) were investigated. Expression of NO, ROS in BV2 microglial cell line treated by LPS and AChE activity in PC-12 cell treated by NGF were investigated, anti-AChE was observed through Western blot analysis. The effects of the DDTCMT hot water extract & ultra-fine powder on the behavior of the memory deficit mice induced by scopolamine were investigated.

**Results:**
1. The DDTCMT hot water extract significantly decreased the production of mIL-6, mNOS, mTNF-α, and increased the production of mIL-10, mIL-1 receptor antagonist.
2. The DDTCMT hot water extract significantly suppressed the production of IL-1β, IL-6, TNF-α in BV2 microglial cell line treated by LPS.
3. The DDTCMT hot water extract significantly suppressed the NO and ROS production in BV2 microglial cell line treated by LPS.
4. The DDTCMT hot water extract groups showed inhibition of AChE activity in NGF treated PC-12 cell line.
5. The DDTCMT hot water extract groups showed anti-AChE expression in NGF treated PC-12 cell line was observed by Western blot analysis.
6. The DDTCMT hot water extract & ultra-fine powder groups showed significantly inhibitory effect on the scopolamine-induced impairment of memory in the experiment of Morris water maze.

**Conclusions:**
These results suggest that the DDTCMT hot water extract & ultra-fine powder may be effective for the prevention and treatment of Alzheimer’s disease.

**Key Words:**
Alzheimer’s disease, *DoDamTanghapChongMungTang*(DDTCMT), Hot water extract, Ultra-fine powder