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Effect of the Extracts of *Gongjadaesungjichimjung-bang*, a Traditional Korean Medicinal Prescription, on Scopolamine-Induced Memory Impairment in Mice

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The water- and methanol extracts of *Gongjadaesungjichimjung-bang* (GDC) have been tested for their activities on memory enhancement by passive avoidance task and for their inhibitory effects on acetylcholine esterase *in vitro* and *in vivo*. The results were summerized as follows :

1. The water extract of GDC significantly enhanced memory at a concentration of 50mg/kg, but this effect did not proportionally increased at a dose of 100mg/kg.
2. The methanol extract of GDC significantly enhanced memory in a dose-dependent manner and was more effective than the water extract.
3. The water extract of GDC significantly inhibited acetylcholine esterase activity in a dose-dependent manner *in vivo* assay, however, this effect was not remarkable.
4. The water extract of GDC showed dose-dependently the significant inhibition on acetylcholine esterase activity *in vitro* assay. IC₅₀ value was 1.57mg/ml.
5. The methanol extract of GDC significantly inhibited acetylcholine esterase activity in a dose-dependent manner *in vivo* assay, showing 52.6% activity at a dose of 100mg/kg and this effect was stronger than that of water extract.

6. The methanol extract of GDC dose-dependently showed a significant inhibition on acetylcholine esterase activity *in vitro* assay, which was more active than water extract. IC_{50} value was 0.66mg/ml.

As a result, the extract of *Gongjadaesungjichimjung-bang* showed a memory enhancement as well as the inhibitory effect on acetylcholine esterase activity, which suggest that this prescription may be applied for the treatment of memory impairment.