P56

Central Nerve Depressant Activity and *Benzodiazepine* Receptor Agonistic Activity of *Ganbodan*

Byung-Su Gu, Dong-Ung Lee*

Department of Oriental Neuropsychiatry, College of Oriental Medicine, Dongguk University, Seoul, Korea
*Department of Biochemistry, Dongguk University, Kyongju 780-714, Korea

This study was designed to examine the inhibitory effects of *Ganbodan*(癎寶丹), which is traditional sedative drug in Korea and China, on the central nerve system and GABA/benzodiazepine receptor in Mice. For this purpose, anticonvulsive effect, the inhibitory effect on GABA transaminase activity, brain GABA level, brain glutamate level, antioxidative activities, agonistic effect on GABA/benzodiazepine receptor and potentiation on pentobarbital-induced sleeping time have been investigated *in vivo* and *in vitro*.

The results were summerized as follows :

1. *Ganbodan* extract dose-dependently inhibited PTZ-induced convulsion and lethality *in vivo*.
2. The *in vitro* inhibitory effect of *Ganbodan* extract on GABA transaminase (GABA-T) activity was relatively weak, but *in vivo* test, this drug significantly inhibited GABA-T activity.
3. *Ganbodan* did not enhance brain GABA content even at a high concentration (900mg/kg).
4. *Ganbodan* extract inhibited aldehyde oxidase activity in a dose-dependent manner, but did not significantly inhibited xanthine oxidase activity, showing a non-specific inhibition on free radical generating enzymes. This drug exhibited weak anti-lipid peroxidation *in vitro* and *in vivo*, but showed DPPH radical scavenging activity (50% activity at 10mg/kg).
5. *Ganbodan* extract inhibited dose-dependently the binding of the antagonist on GABA/benzodiazepine receptor complex in rat cerebral cortices.
6. *Ganbodan* extract lengthened the pentobarbital-induced sleeping time in a dose-dependent manner.

Above results suggest that *Ganbodan* extract can be applicated for the sedative drug.