Hypoglycemic Effect of Antrodia cinnamomea mycelium in Streptozocin induced insulin-dependent diabetic rats

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ABSTRACT

Recently studies reported Antrodia cinnamomea(AC) with the features such as anti-inflammation, anti-oxidation, antibacterial, immune modulation, antiviral and prevention of cardiovascular disease.. etc. But, there were few reports in the hypoglycemic effect. In this research, the hypoglycemic effect of AC will be investigated in streptozocin (STZ) induced insulin-dependent diabetic rats. Wistar rat was injected STZ 60 mg/ml·kg i.v. induced into IDDM(N=8). The plasma glucose levels of STZ induced diabetic rats were evaluated to study the hypoglycemic effect by using different doses(1000, 1500 mg/ml·kg) of AC to explore the optimal effective dose. The blood was taken under anesthesia with pentobarbital 40 mg/ml·kg, i.p.. The plasma glucose and free fatty acid(FFA) levels were detected at 0, 30, 60 minute to realize the impact of AC. The gastrocnemius muscle was assayed western blot. In STZ induced insulin-dependent diabetic rats, AC (1500 mg/ml·kg) caused 15.30% reduction of blood glucose level from 444.44 ± 87.47 to 396.62 ± 99.22 (P<0.05) during 60 minute. Also, AC (1500 mg/ml·kg) caused 28.88% reduction (P<0.05) of FFA level from 2.179 ± 0.06 to 1.562 ± 0.378 during 30 minute. AC has significant hypoglycemic effect and lowering plasma FFA effect, the plasma FFA level may have close relationship with the hypoglycemic effect of AC in STZ-induced insulin-dependent diabetic rats.

Keywords: Antrodia cinnamomea, streptozocin, insulin-dependent diabetic rats

REFERENCES