Idea of study in Antrodia cinnamomea mycelia possible to lower blood pressure in the type 2 diabetic rats

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ABSTRACT

Background: There are some metabolism problems in type 2 diabetic such as obesity, failure to insulin secrete etc. That may cause many complications included diabetic nephropathy, diabetic retinopathy, cardiovascular disease etc. There are about 20~85% chances that type 2 diabetic patients will come with hypertension. In recently research indicated none-insulin dependent diabetes mellitus (NIDDM) and hyperglycemia caused hypertension by some reasons like nephropathy, Na+ retention, peripheral neuropathy. Antrodia cinnamomea(AC), a Taiwanese unique folk medicine fungi and already know the fungi also have certainly effect in hypertension but its mechanisms have not been fully understood.

Material & Method: To induce NIDDM, STZ(40 mg/kg, i.p.)was administered to 3-days-old pups(n=20). While these rats grew up and induced as NIDDM rats that were divided into control group and experimental group randomly. The experiment group was treated AC(500 mg/kg, p.o.)of low-temperature drying of grain cultivated mycelia powder and the control group was treated saline. Also, the Atropine i.p. and Eserine i.p. were used for investigated the role of cholinergic nerve. A blood pressure detecting system, MK-2000ST was applied for detecting the heart rate, systolic (SBP) and diastolic blood pressure (DBP) in one hour. All the environment was in stable with pentobarbital to anesthesia.

Results: The DBP of NIDDM rats treated AC 500 mg/kg compared with treated saline at 60 min. The AC change -22% of DBP from 69±11.7 to 53±9.4 and the saline change 17% from 57±9.7 to 65±11.0. Furthermore, the lowering effect of DBP was blocked by Atropine.

Conclusion: As the data showed, the low-temperature drying of grain cultivated mycelia powder of AC to lower DBP may relate to the action of cholinergic nerve via the muscarinic receptor. In this study, a hypothesis is proposed that AC may improve the hypertension by activating cholinergic nerve.

Keywords: none-insulin dependent diabetes mellitus, Antrodia cinnamomea, MK-2000ST

REFERENCES