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The Effect of *Pueraria radix* on Production of Apolipoprotein B100

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Atherosclerosis is a common and insidious disease and a major cause of morbidity and mortality in industrialized societies. The development of atherosclerosis and coronary heart disease(CHD) is related to the cholesterol-rich lipoproteins of hepatic and intestinal origin. There is abundant evidence that disorders of lipid metabolism result in an increased risk for atherosclerosis and that lowering of low density lipoprotein(LDL)-cholesterol reduces morbidity and mortality from CHD. While numerous risk factor for developing atherosclerosis have been proposed, hyperlipoproteinemia is known to promote atherogenesis both in human subjects and in experimental animals.

We investigated the effect of the water extract of *Pueraria radix* on production of apolipoprotein B100(Apo B100) in Hep G2 liver cells. Human cell line Hep G2 cells were grown in the various amounts(0%, 0.5%, 1.0%, 1.5%, 2.0%)of water extract of *Pueraria radix*. The amounts of Apo B100 in cells and media were quantitated by Western Blotting technique with an enhanced chemiluminescence detection system. Total cholesterol and free cholesterol concentrations were measured by gas chromatography.

Treatment with water extract of *Pueraria radix* resulted in a 49.1%(1.0%), 50.0%(1.5%) and 62.2%(2.0%) decrease on the Apo B100 concentration in Hep G2 cells. The water extract of *Pueraria radix* also decreased Apo B100 concentration 23.7%(0.5%), 34.5%(1.0%), 61.8%(1.5%) and 66.2%(2.0%) in the media. Treatment of the cells with water extract of *Pueraria radix* significantly decreased the intracellular total cholesterol and unesterified cholesterol. There were maximal decline at 1.5% of *Pueraria radix* extract. *Pueraria radix* also decreased the intracellular concentration of cholesteryl ester but this effect was only significant at the highest dose of 2%. Our findings suggest that the water extact of Pueraria radix attenuates the production and secretion of Apo B100 from liver cells.