PIPERINE, AN ACTIVE PRINCIPLE FROM *PIPER NIGRUM*, MODULATES HORMONAL AND APO LIPOPROTEIN PROFILES IN HYPERLIPIDEMIC RATS

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ABSTRACT

Purpose: To study the effect of piperine, an alkaloid, on thyroid hormones and apolipoproteins in high-fat-diet (HFD) and antithyroid drug-induced hyperlipidemic rats. **Experimental:** Male Wistar rats were first divided into two groups, control diet and high-fat diet (HFD) and then subdivided into four subgroups of ten animals each. The animals were treated with the following regimens for 10 weeks: 1% carboxymethyl cellulose; 10 mg carbimazole (CM)/kg body weight; 10 mg CM + 40 mg piperine/kg body weight, and 10 mg CM + 2 mg atorvastatin /ATV//kg body weight. Lipid profiles, hormone levels, and apolipoprotein levels were studied in all groups. **Results:** HFD and/or CM administration significantly elevated the plasma levels of total cholesterol, VLDL, LDL, triglycerides, free fatty acids, and phospholipids, but significantly reduced the HDL levels. Moreover, CM administration significantly reduced apo A-I levels and T_3, T_4 and testosterone levels while significantly elevating plasma apo B, thyroid stimulating hormone (TSH) and insulin levels. The simultaneous administration of piperine and HFD significantly reduced plasma lipids and lipoproteins levels, except for HDL, which was significantly elevated. Piperine supplementation also improved the plasma levels of apo A-I, T3, T4, testosterone, and I and significantly reduced apo B, TSH, and insulin to near normal levels.

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