EFFECT OF ORAL DOSE OF 11 S CHICKPEA PROTEIN AND/WITH ROSUVASTATIN IN RATS FED A HIGH-CHOLESTEROL DIET

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Studies in the literature indicated that 11S proteins have a homology interspecies that appear to be result from an ancestral gene. Soybean 11S (glycinin) indicated that the protein can have hypocholesterolemic activity in experiments in vitro and in vivo. The objective of this study was isolate the 11S globulin from chickpea and compares it with rosuvastatin, when administered to rats submitted to a hypercholesterolemic diet. The 11S protein was isolated by known method and was characterized by chromatography and PAGE. Forty-five Male Wistar rats were maintained in individual metabolic cages under controlled conditions and divided in five groups (n=9): 1) Standard casein diet (AIN-93M) (STD), 2) hypercholesterolemic group (HC) (diet STD plus 1% of cholesterol and 0.5% of cholic acid), 3) HC + 11S chickpea (300mg/Kg body weight), 4) HC + ROS rosuvastatin (10mg/Kg body weight), 5) HC + 11S chickpea + ROS (as described). During the experiment (28 days) the animals received an oral daily dose of the protein and drug by gavage. The rats fed diets and water ad libitum and they were sacrificed by decapitation; blood and liver were removed for analyses of total cholesterol (TC), HDL-cholesterol (HDL-C) and triacylglycerols (TG) in the blood and TC and TG in the liver. The data from this study show a decrease in total serum cholesterol levels close to that observed with the drug and those obtained with 11S fraction of soybean with reduced plasma and liver TG, and non-HDL fraction between 20 and 24%, while HDL fraction increased 26.8%.

Keywords: chickpea, 11S protein, experimental model, rosuvastatin, hypercholesterolemia.

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