Thesis Title Effect of Nicotinic Acid Derivative on Plasma Lipoprotein Composition in Type II Hyperlipoproteinemic Patients
Name Kingkaew Pattarakarn
Degree Master of Science (Nutrition)
Thesis Supervisory Committee
Ratana Pakpeankitvatana, D.Sc.
Vichai Tanphaichitr, M.D., Ph.D., F.A.C.P., F.R.A.C.P.
Krisana Kraisintu, Ph.D.
Date of Graduation 22 May B.E. 2538 (1995)

ABSTRACT

The purpose of this study is to evaluate the effect of nicotinic acid derivative, etofibrate retard, on plasma lipoprotein composition and its safety in type II hyperlipoproteinemic patients who attended Nutrition Clinic, Departmet of Medicine, Ramathibodi Hospital. They consisted of 7 men and 27 women with the age of 26 to 68 yrs. They had serum total cholesterol (TC) level of ≥5.2 mmol/L and low density lipoprotein-cholesterol (LDL-C) level of ≥3.4 mmol/L. The study consisted of 4 wks of control and 48 wks of drug period. Throughout the study, the patients were instructed to consume diets with 15% protein, 30% fat and 55% carbohydrate and <300 mg cholesterol intake per day.

After 4 wks of etofibrate retard treatment, the patients were classified into 2 groups, responders and nonresponders; responders were 20 patients whose serum TC levels decreased more than 5% from the level at wk0, whereas non-responders were 14 patients who did not show the reduction in serum TC levels. The mean decreases in their serum TC levels at wks 4, 8 and 12 from those at wk0 were 10.0%, 7.3%, and 5.8%; those for their serum PL levels were 15.3%, 11.6%, and 10.1%; those for their

serum TG levels were 21.1%, 23.9%, and 19.7%, respectively. The mean decreases in their serum FC levels at wks 4 and 12 from that at wk0 were 14.0% and 11.9%, respectively and the mean decreases in their serum CE at wks 4 and 8 from that at wk0 were 8.3% and 7.7%, respectively. The mean decreases in their VLDL-C levels at wks 4, 8, and 12 from that wk0 were 18.6%, 23.8%, and 25.4%; those for their VLDL-FC levels were 16.4%, 27.4% and 24.8%; those for their VLDL-CE levels were 15.1%, 19.2% and 16.3%; those for their VLDL-PL levels were 26.3%, 32.6% and 37.1% and those for their VLDL-TG levels were 17.4%, 31.5%, and 27.7%, respectively. In LDL fraction, the mean decreases in LDL-C levels at wks 4, 8, and 12 from those at wk0 were 15.2%, 17.8%, and 13.9%; those for LDL-CE levels were 17.3%, 20.9%, and 12.8%; those for LDL-PL were 14.3%, 17.7%, and 13.2%. The mean decreases in their LDL-TG levels at wks 4 and 8 from those at wk0 were 17.7% and 14.3%. The lower in LDL fraction was supported by their plasma S-particle during the etofibrate retard treatment. No significant changes in HDL-C level throughtout the study period, whereas significant decreases plasma fibrinogen levels in both responders and non-responders were observed only for long-term treatment. There were significant increases in LDL-oleate at in responders and significant decreases in LDL-linoleate levels in non-responders during the 12wks of study. Since there were no significant chages in their cholesterol, energy, saturated fatty acid, mono-unsaturated fatty acid and polyunsaturated fatty acid intakes throughout the study, dietary intake is not a confounding factor for interpretation of the cholesterol-lowering effect of etofibrate retard. The etofibrate retard treatment is safe, evidenced by no clinical adverse effect and normal hematological parameters, liver and renal function tests.