SUMMARY

1. Increased plasma cholesterol was observed in vitamin E-deficient (E^-0) rabbits with elevated muscle cholesterol. The increased plasma cholesterol was detected in LDL and VLDL but not in HDL fractions of plasma lipoproteins. High dose of vitamin E supplementation (210 and 2100 mg/week) decreased LDL- and VLDL- and increased HDL-cholesterol.

2. The activity of cholesterol 7α- hydroxylase in liver microsomes of E^- rabbits was approximately 5 fold less than that of control (E^+) rabbits. Increased vitamin E supplementation increased the enzyme activity.

3. Cytochrome P-450 level of liver microsomes from E^- rabbits was significantly lower than that of E^+ rabbits. Increased vitamin E supplementation increased cytochrome P-450 level.

4. Lipid peroxidation was increased in liver microsome of E^- rabbits. Increased vitamin E supplementation decreased both *in vivo* and *in vitro* lipid peroxidation.

5. Increased dietary PUFA showed slightly decreased in cholesterol 7α-hydroxylase activity , decreased cytochrome P-450 level and increased *in vivo* but not *in vitro* lipid peroxidation in liver microsomes of E^- rabbits.

6. It was concluded that elevated muscle cholesterol in vitamin E-deficient rabbits may be due to increase in LDL- and VLDL-cholesterol and to the decrease in cholesterol 7α-hydroxylase activity which may in turn have been affected by the reduced level

of cytochrome P-450. Increased lipid peroxidation in E^- rabbits may have been the cause of cytochrome P-450 reduction .High vitamin E supplementation affected cholesterol metabolism by increasing HDL-cholesterol and cholesterol 7α-hydroxylase activity , thereby lowering muscle cholesterol level.

Biography

Name: Nongnuch Chupukcharoen

Birth: Feb 26,1957

Place of Birth: Bangkok, Thailand

Education: Certificate of Prathom Suksa VII ,
Patamapirat School, March 1970

Certificate of Mathyom Suksa V,
Sai Namphung School , March 1975

Bachalor of Science (Med. Tech.)
Chiangmai University, March 1979