

**PLATELET FATTY ACIDS AND LIPOPROTEIN (a) IN SUBJECTS WITH
CORONARY HEART DISEASE AND HEALTHY CONTROLS**

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ABSTRACT

A cross-sectional study was performed to investigate 250 volunteers from Division of Cardiology, Pramongkutklo Hospital, Sampantawong district, Wat Chaiyapreukmala and Wat Pradoo in Taling Chan district. They were divided into groups of 35 apparently healthy males, and 55 apparently apparently females, age ranges of 24-62 years and 27-65 years respectively, compared with 62 male cases and 98 female cases, age ranges of 25-72 years and 28-62 years respectively. The male cases were divided into 3 subgroups of 16 males with coronary heart disease (CHD), 37 males with dyslipidemia and 9 males with hypertension, with age ranges of 56-69, 25-69 and 26-75 years respectively. The female cases were divided into 10 females with coronary heart disease, 73 females with dyslipidemia and 15 females with hypertension with age ranges of 33-67, 22-73 and 38-70 years respectively.

Anthropometric parameters, blood pressures, lipid profiles, blood glucose, Lp (a) and platelet fatty acids were investigated.

Between healthy groups and cases, hip circumference (HC) in male cases was significant higher than in apparently healthy males ($p < 0.001$), whereas waist circumference, and waist/hip ratio were significant higher in female cases than in apparently healthy females ($p < 0.001$).

Cardiovascular risk factors were compared. In male groups, significant higher of low density-lipoprotein cholesterol (LDL-C), total cholesterol/high density-lipoprotein cholesterol ratio (TC/HDL-C ratio), low density-lipoprotein

cholesterol/high-density lipoprotein cholesterol ratio (LDL-C/HDL-C ratio) and plasma glucose than apparently healthy males were found with $p < 0.05$.

In female groups, significant higher of serum Lp(a) and plasma glucose than apparently healthy females were found ($p < 0.05$, $p < 0.05$ respectively).

Significant higher of arachidonic acid (AA) was found in female cases than in apparently healthy females ($p < 0.05$).

The statistical significant differences were investigated between apparently healthy males and subgroups of the three diseases. Age and hip circumference (HC) in CHD group was significant higher than those in apparently healthy males ($p < 0.001$, $p < 0.05$ respectively). Whereas the comparison between healthy females and subgroups, age was found significant higher in dyslipidemia than those in apparently healthy females ($p < 0.05$), Waist circumference (WC) in CHD and dyslipidemia groups were higher than those in apparently healthy females ($p < 0.05$, $p < 0.001$ respectively). Hip circumference (HC) was significant higher in dyslipidemic than those in apparently healthy females ($p < 0.05$). Waist/hip ratio (W/H ratio) were also found significantly higher in CHD and dyslipidemia compared with the apparently healthy group ($p < 0.05$, $p < 0.001$ respectively).

Cardiovascular risk factors were investigated in healthy males and subgroups of diseases. TC/HDL-C ratio in dyslipidemia was significant higher than those in apparently healthy group ($p < 0.05$). Whereas LDL-C/HDL-C in CHD was significant higher than those in apparently healthy group ($p < 0.05$). Lp(a) was significant higher in CHD than in dyslipidemia ($p < 0.05$). In healthy females and subgroups of

diseases, only Lp(a) in dyslipidemic group was found significant higher than those in apparently healthy group ($p<0.05$).

No significant difference was found in platelet fatty acids of male groups, whereas in female groups the comparison between healthy females and subgroups of disease showed AA was significant higher in hypertension than those in apparently healthy group than those in control group ($p<0.05$). α -linolenic acid (ALA) in dyslipidemia was significant higher than those in CHD ($p<0.05$).

When male and female groups were divided by age under and over 50 years, weight, height and BMI were significant higher in females age over 50 years than in females age under 50 years ($p<0.05$, $p<0.05$, $p<0.001$).

Cardiovascular risk factors were also investigated, significant higher of systolic blood pressure ($p<0.05$), TC ($p<0.05$), LDL-C/HDL-C ratio ($p<0.05$), Lp(a) ($p<0.05$), in males age over 50 years than males age under 50 years were found, but LDL-C was significant higher in males age over 50 years than those in age under 50 years ($p<0.001$).

In females divided by age over and under 50 years, systolic blood pressure, diastolic blood pressure, TC, LDL-C, TC/HDL-C, LDL-C/HDL-C ratios and TG were significant higher in females age over 50 years than those in females age under 50 years ($p<0.001$).

ALA was found significant higher in males age over 50 years than those males age under 50 years ($p<0.05$).

Positive correlation were found among LA and Lp(a), ALA and diastolic BP, DHA and plasma glucose whereas negative correlations were found between AA and diastolic blood pressure, EPA and systolic blood pressure.

Negative correlations were found between LA and EPA, AA and EPA, EPA and DHA, positive correlations were found between ALA and EPA, AA and DHA

Lp(a) was found positively correlated with TC and LDL-C.

No correlations were found between age, anthropometric parameters and platelet fatty acids.