HIGH SENSITIVE CRP (HSCRP) AND LIPOPROTEIN ASSOCIATED PHOSPHOLIPASE A2 (LPPLA2) IN SMOKERS AND NONSMOKERS OF THE LUDWIGSHAFEN RISK AND CARDIOVASCULAR HEALTH STUDY (LURIC)

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Abstract

Cardiovascular disease (CVD) is an important cause of morbidity and mortality and cigarette smoking is an established risk factor. The individual risk can be estimated by a number of predictive factors (e. g. plasma lipids, coagulation and fibrinolysis, inflammation and life style). Measurement of hsCRP and $LpPLA_2$ provides information on systemic inflammation and stability of atherosclerotic plaques. Both parameters were analyzed in active smokers (S) and life-time nonsmokers (NS) of the LURIC study. 3316 patients were included (777 S, 1178 NS). Within 10 years observation (median) 995 died (221 S, 302 NS). $LpPLA_2$ and hsCRP were higher in S than in NS (S vs. NS; $LpPLA_2$, 424.2 (293.7–630.2) vs. 383.8 (272.3–533.5) ng/ml, $p<0.001$; hsCRP, 4.9 (1.8–10.3) vs. 2.7 (1.2–7.0) ng/ml, $p<0.001$) and correlated ($r_S=0.132$, $p<0.001$). In 125 (16.3 %) S $LpPLA_2$ was above the median whereas hsCRP was below. Vice versa, hsCRP was above the median in 179 (23.3 %) S whereas $LpPLA_2$ was below (NS: 276 (23.6 %) and 208 (17.8 %), respectively). Age and sex adjusted mortality was highest in patients with elevated values of hsCRP and $LpPLA_2$ and lowest in patients with values of hsCRP and $LpPLA_2$ below the median. The data confirm the predictive values of both for risk estimation. However, even though parameters are correlated there is a relevant number of patients with an increase of only one of these parameters. Therefore, beside other CVD risk factors both parameters should be determined at least in high risk patients.