

NON-HDL-CHOLESTEROL AND ATHEROGENICITY IN TYPE 2 DIABETES MELLITUS PATIENTS

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OBJECTIVES

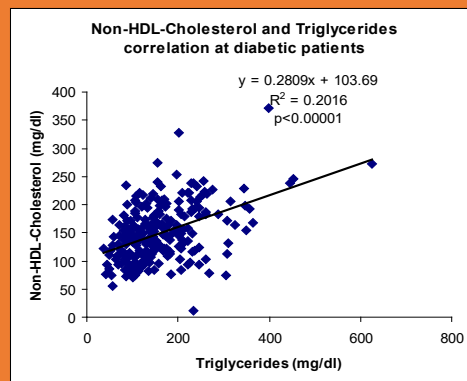
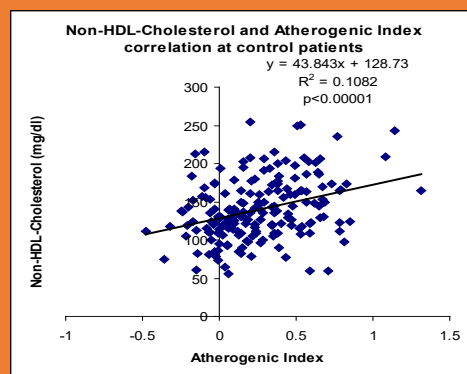
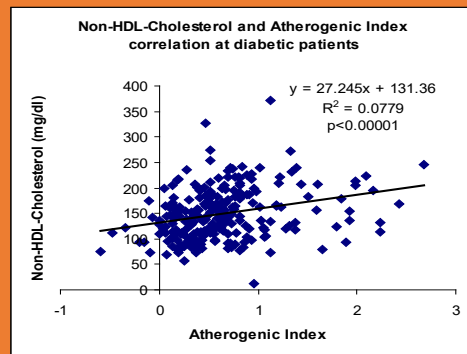
The objective of the study was to determine if Atherogenic Index (AI) and non-HDL-cholesterol are good risk predictors in type 2 diabetes mellitus (DM) patients.

METHODS

Observational cross-sectional study included 419 patients, over 65 years old: 238 DM and 181 control patients.

- AI was calculated as $\log(\text{TG}/\text{HDL})$ and is associated with: low risk - 0.3 - 0.1; medium risk 0.1 - 0.24 and high risk above 0.24.

- Non-HDL-cholesterol was calculated as total cholesterol minus HDL-cholesterol.



RESULTS

- high triglycerides ($p < 0.0001$);
- high AI ($p < 0.0001$);
- high non-HDL-cholesterol ($p < 0.05$);
- low HDL-cholesterol ($p < 0.0001$) at DM patients vs. control group;
- positive correlation between non-HDL-cholesterol and AI at both DM and control patients ($p < 0.0001$);
- patients with high AI had 4.15-fold risk for DM [OR 4.15, 95% CI: 2.39-7.19; $p < 0.0001$];
- AI test has 92.02% sensitivity, 26.47% specificity, disease prevalence 50%, accuracy 59.24%, relative risk estimate=1.25;
- Non-HDL-Cholesterol test has 81.93% sensitivity, 13.81% specificity, disease prevalence 56.8%, accuracy 52.51%, relative risk estimate=0.95.

DISCUSSIONS

Our study confirms lipid abnormalities that occur in DM and are in agreement with other researchers that lipid changes could be the main contributors in DM development.

Even when lipid profile seems “normal”, AI could have the ability to reflect the risk of DM.

From multivariate logistic regression analysis it appears that there is a strong correlation between DM development and AI : whose with high AI had 4.15-fold risk for DM.

CONCLUSIONS

High risk AI leads to an increase in the prevalence of DM, consequently AI could be a useful tool in risk assessment of DM patients.

Non-HDL-cholesterol could also be a significant predictor in DM patients both with and without elevated LDL-cholesterol.