

159. APOLIPOPROTEINS AND LIPOPROTEINS IN NON-INSULIN-DEPENDENT DIABETES MELLITUS

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Lipoprotein contents associated with diabetes mellitus are of considerable interest, since diabetic patients suffer from coronary artery disease more frequently than a non-diabetic population at the same age.

We selected first-visit cases of non-insulin-dependent diabetes mellitus (NIDDM) without any known lipidemia (e.g., with normal triacylglycerol and cholesterol values). This study was the simultaneous measurement of apolipoproteins (apo) A-I, A-II, B, in addition to lipoproteins (HDL, LDL, and VLDL). Apolipoproteins were quantitated by turbidimetric measurement of the antigen-antibody reaction. We observed that concentration of HDL, LDL, VLDL didn't differ significantly between NIDDM and non-diabetic controls. However, our preliminary data revealed that apo A-I and apo A-II levels were decreased in NIDDM with values below 118 and 36 mg/dL, respectively while Apo-B level remained basically the same as that of normal value.

Extensive studies related to apolipoprotein and lipoprotein contents in the untreated vs. therapied NIDDM patients are ongoing in our lab.

① 160. DETERMINATION OF 17-HYDROXYPROGESTERONE IN DRIED BLOOD SPOT BY ENZYMEIMMUNOASSAY AND ITS APPLICATION TO NEONATAL SCREENING OF CONGENITAL ADRENAL HYPERPLASIA

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Congenital adrenal hyperplasia (CAH) is a family of inherited disorders of adrenal steroidogenesis, caused most commonly by 21-hydroxylase deficiency. A simplified enzymeimmunoassay (EIA) kit (CIBA-CORNING Diagnostics K.K., Japan) for quantitative determination of 17-hydroxyprogesterone (17-OHP) in dried blood spot collected on filter paper has been evaluated by our laboratory for screening of CAH. The imprecision of the assay were 5.4-7.4% (within-run C.V.) and 8.9-10.4% (between-run C.V.). Analytical recovery, linearity, and specificity are satisfactory and the results correlate closely ( $r=0.924$ ,  $p<0.001$ ,  $n=30$ ) with those determined by an established radioimmunoassay (Sorin Biomedica, Italy). For the period of six month, 2480 neonates has been screened for CAH. Reference range of 17-OHP in dried blood spot determined by this EIA method were estimate to be 4.4-31.0 ng/mL blood in normal newborns, and 4.0-52.0 ng/mL blood in premature newborns. The 17-OHP value of low birth weight newborns were significantly higher ( $p<0.01$ ) than those of normal newborns. We found that the 17-OHP concentration in normal neonates decreased dramatically after the first day of life. For this reason, screening of CAH before the age of 24 hours may be difficult, and the screening afterward would be much more reliable.

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