

The Benefit of a Universal Screening Program for Lipid Disorders in Two to Ten Years Old Lebanese Children

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Abstract : Introduction: Dyslipidemia has been recognized as a risk factor for cardiovascular diseases. While the development of atherosclerotic lesions begins in childhood and progresses throughout life, data on the prevalence of dyslipidemic children in Lebanon is lacking. Objectives: This study was conducted to assess the benefit of a protocol for universal screening for lipid disorder in Lebanese children aged between two and ten years old. Materials and Methods: A total of four hundred children aged 2 to 10 years old (51.5% boys) were included in the study. The subjects were recruited from private pediatric clinics after parental consent. Fasting total cholesterol (TC), triglycerides (TG), low-density lipoprotein (LDL), high-density lipoprotein (HDL) levels were measured and non-HDL cholesterol was calculated. The values were categorized according to 2011 Expert on Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents. Results: The overall prevalence of high TC (≥ 200 mg/dL), high non-HDL-C (≥ 145 mg/dL), high LDL (≥ 130 mg/dL), high TG (≥ 100 mg/dL) and low HDL (< 40 mg/dL) was respectively 19.5%, 23%, 19%, 31.8% and 20%. The overall frequency of dyslipidemia was 51.7%. In a bivariate analysis, dyslipidemia in children was associated with a BMI $\geq 95^{\text{th}}$ percentile and parents having TC > 240 mg/dL with a P value respectively of 0.006 and 0.0001. Furthermore, high TG was independently associated with a BMI $\geq 95^{\text{th}}$ percentile (P=0.0001). Children with parents having TC > 240 mg/dL was significantly correlated with high TC, high non-HDL-C and high LDL (P=0.0001 for all variables). Finally, according to the Pediatric dyslipidemia screening guidelines from the 2011 Expert Panel, 62.3% of dyslipidemic children had at least 1 risk factor that qualified them for screening while 37.7% of them didn't have any risk factor. Conclusions: It is preferable to review the latest pediatric dyslipidemia screening guidelines by performing a universal screening program since a third of our dyslipidemic Lebanese children have been missed.

Keywords : cardiovascular risk factors, dyslipidemia, Lebanese children, screening

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