THERE IS SUBSTANTIAL, RESIDUAL ATHEROSCLEROTIC BURDEN IN CHILDREN TREATED PER CURRENT GUIDELINES FOR INITIATING LIPID LOWERING THERAPY

ACC Poster Contributions
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Background: Current guidelines recommend statins in children aged ≥ 10 years if low density lipoprotein cholesterol (LDL C) ≥ 190 mg/dl or, if lower with other risks. Objective: Do current guidelines select & impact children with the highest vascular risk?

Methods: Modifiable risk factors - BMI Z score, Systolic blood pressure (SBP), LDL C, Triglyceride (TG), High density lipoprotein cholesterol (HDL C), Insulin, Tobacco smoke exposure & carotid artery intima-media thickness (CIMT) of 41 children (23 obese & 18 non-obese) who were statin eligible or non-eligible were compared.

Results: Age at Visit 1 (V1) - Obese 11.5 ± 3.0 yrs, Non-obese 14.1 ± 3.1 yrs (p<0.01). Sex, race, tobacco smoke exposure history, & SBP were comparable. LDL C, HDL C & TG trends are illustrated (figure). Hyperinsulinemia, noted in a third of the obese group only, did not change over time. Risk factors # - (V1,V2 - Visit 2) - Obese 3.6 ± 1.1, 3.8 ± 1.2 Non-obese 1.6 ± 1.1, 1.7 ± 1.1 (p<0.01). CIMT (mm) - (V1,V2) - Obese 0.57 ± 0.05, 0.57 ± 0.05 Non-obese 0.57 ± 0.06, 0.57 ± 0.06 (p=ns). Obese children had decreasing risk for obesity (OR=0.16) & Non-obese children had an increasing risk for obesity over time (OR=6.5).

Conclusions: Obese children were younger with higher number of risk factors & CIMT comparable to non-obese, with no improvements noted with interventions. The emergence of obesity in Non-obese may have impacted their vascular response to statins. There is substantial residual vascular risk in high risk children following interventions.