

Evaluation of Endothelial Function in Obese Children

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Abstract

[Background] It is established that atherosclerosis is accompanied by endothelial dysfunction.

[Objective] In this study, we examined endothelial function in obese children to assess its usefulness in the early diagnosis of atherosclerosis.

[Method] We used high-resolution ultrasonography to measure end-diastolic diameters of the brachial artery before and after reactive hyperemia.

[Result] Obese children had significantly impaired endothelium-dependent dilatation compared with controls. In obese children, endothelial dysfunction significantly correlated with serum triglyceride, total cholesterol, HDL-cholesterol, LDL-cholesterol, atherogenic index, and apoA-I/B with $r = -0.542$, -0.616 , 0.493 , -0.628 , -0.739 , and -0.780 , respectively, but not with obesity index and visceral/ subcutaneous fat ratio.

[Conclusion] Our results showed that endothelial function is impaired in obese children and that this dysfunction may be related to dyslipidemia. Evaluation of endothelial function by ultrasonography may be useful in the early detection of atherosclerosis in obese children.

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Keywords

NO, Endothelial function, Obesity, Atherosclerosis, Hyperlipidemia

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