

**Subclinical atherosclerosis in obese adolescents with normal left ventricular function.**

[Abdel-Wahab AM](#), [Atwa HA](#), [El-Eraky AZ](#), [El-Aziz MA](#).

**Source**

Department of Pediatrics, Faculty of Medicine, Suez Canal University, Ismailia, Egypt.

**Abstract**

**OBJECTIVE:**

To assess the impact of obesity on carotid intima media thickness and left ventricular (LV) mass in obese adolescents.

**METHODS:**

The study included 52 obese adolescents (mean age 14.16 $\pm$ 2.64 years) and 52 healthy adolescents who served as a control group (mean age 12 $\pm$ 2.3 years), who were attended the outpatient clinic at Suez Canal University Hospital, Ismailia, Egypt. The study population was submitted for medical history, clinical examination, laboratory investigations (fasting blood sugar and lipid profile), and echocardiographic examination of LV mass and dimensions. Assessment of carotid intima-media thickness was carried out by using carotid duplex. All children had normal LV function.

**RESULTS:**

Obese adolescents had a significant increase in total cholesterol, triglyceride, LDL-C, and low HDL-C compared to the control group. Also, there was a significant increase in blood pressure, carotid intima media thickness, LV mass, and LV mass index. There was a significant correlation between BMI and dyslipidemia, blood pressure, carotid intima/media thickness, LV mass, and posterior wall thickness. Carotid



intima-media thickness had a significant correlation with increased LDL-C and low HDL-C, blood pressure, LV mass, and posterior wall thickness.

**CONCLUSION:**

Obesity in childhood and adolescents is associated with subclinical atherosclerosis. Although obese children had no LV dysfunction, yet there are LV structure changes.