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Aim of this study is to evaluate the relationship between periaortic fat thickness (PAFT) and parameters involved in the development of metabolic complications of the cardiovascular system in obese children and to assess the usefulness of echocardiographic measurements of PAFT in correlation with cardiovascular risk factors.

The study was conducted with 263 obese and 100 healthy children and adolescents. PAFT was measured with echocardiography method which was recently performed in obese children and adolescents.

PAFT was significantly higher in the obese group (0.258 ± 0.031 mm) than in the control group (0.137 ± 0.032 mm) ($p < 0.001$). In multivariable regression analysis, body mass index-standard deviation score and total body fat were predictors of PAFT. The area under the receiver operating characteristic curve was 0.989 and was quite significant at $p < 0.001$. PAFT above 0.179 mm was determined as the cut-off value in obese children and adolescents (sensitivity=1, specificity=0.97).

The measurement of PAFT in obese children and adolescents may be a good method to reveal the presence of early cardiovascular risk.

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