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Reaction of the adrenal cortex to graded exercise in children with different initial tonus of the autonomic nervous system

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Abstract

It was found that the response of the adrenal cortex to graded bicycle exercise in children depends on the initial autonomic tonus and is adequate to the background excretion level of hormone metabolites. Seven-year-old sympathotonic girls with increased excretion of 17-hydroxycorticosteroids at rest demonstrated the lowest increase in this parameter after exercise in comparison with more pronounced increment in vagotonics with relative low initial level of glucocorticoid metabolites. Enhanced excretion of glucocorticoid metabolites with a decrease in androgens observed in 9-year-old sympathotonic girls attests to predominance of catabolic processes over anabolic ones and low efficiency of switching from muscle exercise to recovery in children. © 2013 Springer Science+Business Media New York.

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Keywords

adrenal cortex, exercise, initial autonomic tone, junior schoolchildren