

Oral presentation

Physical efficiency of girls with conservatively treated idiopathic scoliosis

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Objective

The aim of the study was to estimate the influence of conservative treatment on physical efficiency in girls with idiopathic scoliosis (IS). Physical efficiency was estimated by maximal minute oxygen uptake, ventilatory anaerobic threshold (VAT), and maximal workload.

Study design

A study group consisting of eighty-seven girls with IS, aged ten to seventeen years (mean 13.5 ± 1.61 years) with thoracic ($n = 49$) and double major scoliosis ($n = 38$), was compared with a control group of seventy-seven healthy girls. The mean Cobb angle among the subjects with IS was 31 ± 16.2 degrees (range 11–75 degrees).

Methods

A subgroup of sixty-four girls was treated conservatively using 3D exercises by Dobosiewicz and a second subgroup of twenty-three girls were treated using 2D (symmetric) corrective exercises [1,2]. A subgroup of twenty-six

girls with IS who received 3D exercises by Dobosiewicz ($n = 18$) or symmetric exercises ($n = 8$), were tested before and after treatment. The ergospirometry test was performed using cycle ergometer. Percentage of predicted values was used for analysis.

Results

All girls with IS were classified within the normal range of predicted values of maximal minute oxygen uptake, VAT and maximal workload. Among twenty-six girls tested before and after treatment, a statistically significant increase in the value of VAT occurred during intensive hospital rehabilitation (Table 1).

Conclusion

The exercise efficiency of girls with IS, conservatively treated by physiotherapy, is normal.

Table 1:

Percentage of predicted value of	Girls with IS treated using		p value
	Dobosiewicz's method	symmetric exercises	
Maximal minute oxygen uptake	98	90.5	0.033
VAT	97	93.3	0.049
Maximal workload	101	93.9	0.038

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