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The effect of Schroth exercises on pulmonary function in adolescent idiopathic scoliosis

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Scoliosis is a complex deformity that is caused by the rotation of the spine on its axis and causes deformity in sagittal and transverse planes which mainly effects the coronal plane. Because of the asymmetrical nature of scoliosis, there occurs an asymmetrical breathing pattern, pulmonary muscle weakness, and impairment of cardiopulmonary functions. Treatment options in AIS are made by considering the skeletal maturation of the patient. Cobb curvatures 25-45º and Risser stage 0-2 immature adolescents are treated with brace and exercise. In the present study, we aimed to evaluate effect of regular Schroth exercises on pulmonary functions on adolescent idiopathic scoliosis (AIS) patients who use rigid braces and perform Schroth exercises regularly. Twenty-four patients with AIS were included in the study. The patients who wore rigid brace and performed the SSE therapy constituted the "Brace & Exercise" (N=12), and the patients who wore full time rigid brace but did not perform exercise constituted the "Brace'' (N=12) of the study. The effects of Schroth exercises on pulmonary functions were measured at the beginning of treatment and 8th week of the treatment. At the beginning of the treatment, there were not found statistical differences in demographic data and pulmonary function values between Brace and Brace & Exercise groups. At 8th week of the treatment, there was an increase in the FEV1 parameter in the Brace & Exercise group. Also, at 8th week of treatment, there was found a strong negative correlation between brace using time – FVC and negative correlation between brace using time and FEV1 values ($p < 0.05$). It was determined that the use of full-time brace did not cause a statistically difference on respiratory values and Schroth exercises performed during treatment period could have a positive contribution on FEV1 value.

Keywords: Adolescent idiopathic scoliosis, conservative treatment, brace, respiratory function, Schroth exercises.

References

1. Benameur S, Mignotte M, Parent S, et al. 3D/2D registration and segmentation of scoliotic vertebrae using statistical models. Comput Med Imaging Graph, 2003, 27: 321–337.
2. Cassar-Pullicino VN, Eisenstein SM. Imaging in scoliosis: what, why and how? Clin Radiol, 2002, 57: 543–562.
3. Roach JW. Adolescent idiopathic scoliosis. Orthop Clin North Am, 1999, 30: 353–365, vii–viiivii-viii.

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