Outcome of Physical Fitness Tests 35 Years After Surgery for Adolescent Idiopathic Scoliosis

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**[Purpose]**

This study’s purpose was to analyze the sports ability of patients with adolescent idiopathic scoliosis (AIS) at an average of 35 years postoperatively.

**[Methods]**

The sports abilities of 23 AIS patients (2 males, 21 females; average age, 49.4 ± 5.1 years; average follow-up, 35 years; average Cobb angle of the main curve, 47.4 ± 17.8°) were evaluated using deviation values for 7 of 8 events from Japan’s national physical fitness test. The test results were compared between long-term follow-up AIS patients and the national average. Patients whose lowest instrumented vertebra (LIV) was above L2 and ones whose LIV was below L3 were grouped as upper LIV (uLIV) and lower LIV (ILIV), respectively. Postoperative results were compared between these two groups. We also evaluated the correlation between the number of fused vertebrae and the sports ability.

**[Results]**

The patients’ general performance on physical fitness tests, which was lower than the national average, included the following scores: grip strength, 38.7 ± 9.9; sit-ups, 35.0 ± 10.9; anterior bending, 39.0 ± 13.0; side jump, 34.7 ± 10.0; broad jump, 227 ± 128 (these 5 events, p<0.01); and standing on one leg with eyes open, 53.8 ± 37.2 or with eyes closed, 51.3 ± 33.1 (not significant). No significant differences existed between the uLIV and ILIV groups. However, the correlation between the number of fused vertebrae and agility was r=−0.46.

**[Discussion]**

We found that after long-term follow-up, AIS patients have lower sports ability than healthy persons, but balance is the same in both groups. In AIS patients, those with fewer fused vertebrae have higher agility.