Long-Term Outcomes of Dual Growing-Rod Treatment for Severe Early-Onset Scoliosis

Dual growing rods (DGRs) are employed to correct deformities in patients with severe early-onset scoliosis (sEOS).

The long-term outcomes and pulmonary changes associated with DGR treatment have yet to be clarified.

Analysis of long-term changes during sEOS treatment with DGRs

- **Lengthenings**
  - 4.5 ± 1.3
  - Number of lengthenings
  - 11.2 ± 2.1 months
  - Interval between lengthenings

- **Cobb angle**
  - Preoperative: 104.5° ± 18.2°
  - Postoperative: 38.1° ± 10.1°
  - At final follow-up: 21.9° ± 8.6°

- **T1–S1 height**
  - Preoperative: 25.1 ± 4.0 cm
  - Postoperative: 32.4 ± 3.5 cm
  - At final follow-up: 39.5 ± 4.0 cm

**Pulmonary function parameters**
- Significant improvement at final follow-up (p < 0.05)

**Complications observed**
- Implant-related, proximal junctional kyphosis, and superficial wound infections in 12 patients

DGRs are effective for correcting spinal deformities, enabling the longitudinal growth of the spine, and improving pulmonary function in patients with sEOS.