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Letter to Editor

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Letter to the Editor: Lower Extremity Musculoskeletal Complications of Spastic Cerebral Palsy

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Letter to Editor

We read with great interest the comprehensive and informative review by Abdou, Spector, Sidhu, and Agrawal, focusing on the lower extremity musculoskeletal complications in patients with spastic cerebral palsy (CP) [1]. The paper excellently synthesizes the complex pathophysiology and clinical diversity of this condition, spanning bony deformities, joint changes, and neuromuscular dysfunction.

The authors emphasize that the ultimate goal in managing these complications is to "ultimately improving patient care and outcomes." A critical step in achieving this is determining how and when to surgically address these multiple, often co-existing, deformities. In this context, we believe that the approach of Single Event Multilevel Surgery (SEMS) provides a crucial, tangible contribution to the multimodal treatment approaches envisioned in the paper's "Future Considerations" section.

A retrospective study published by Diril and colleagues in *Eklem Hastalik Cerrahisi* [2] directly compared the outcomes of SEMS versus Multiple Surgical Events (MSE) for ambulatory children (GMFCS Level I-III) with spastic CP. The study included 130 patients, with an average of 3.8 operations performed per child (Range: 2-7).

The findings clearly demonstrated that the SEMS group showed significantly better outcomes in terms of both functionality and family satisfaction:

1. Functional Improvement: Patients undergoing SEMS had statistically better scores on the Gross Motor Function Measure-88 (GMFM-88) sections D (standing) and E (walking, running, and stair climbing) compared to the MSE group ($p=0.037$ and $p=0.045$, respectively). This directly validates the superiority of SEMS in improving the restricted walking, running, and climbing abilities noted by Abdou et al.
2. Patient-Centered Outcomes: Family satisfaction (measured by Visual Analog Scale) was significantly better in the SEMS group ($p=0.047$). This highlights the positive impact of continuous rehabilitation and a single recovery period afforded by single-stage surgery on the patient's and family's quality of life.

The multiple pathologies of CP (such as Achilles tendon lengthening, hamstring lengthening, and adductor tenotomy) in one accurate surgical session maximizes functional potential. By simultaneously balancing lower extremity kinematics and kinetics, SEMS proves to be a more effective strategy for achieving the goals of correcting deformities and increasing independence.

In conclusion, the comprehensive framework of CP complications provided by Abdou and colleagues is strongly complemented by the work

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of Diril and colleagues, which reaffirms SEMS as the preferred surgical approach for these complex pathologies, demonstrating a significant contribution to movement, posture, and independence.

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