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C0243 - SELECTIVE DORSAL RHIZOTOMY FOR THE TREATMENT OF SPASTIC DIPLEGIA AND QUADRIPLEGIA: OUTCOMES ON EFFICACY AND THERAPEUTIC DURABILITY FROM 109 CONSECUTIVE CASES

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Resumen

Objectives: Selective Dorsal Rhizotomy (SDR) has been established as an effective surgical treatment for spastic diplegia. The applicability of SDR to the full spectrum of spastic cerebral palsy and the durability of its therapeutic effects remain under investigation. This study seeks to evaluate outcomes of SDR performed on patients across a range of Gross Motor Function Classification System (GMFCS) levels, including those presenting with spastic quadriplegia.

Methods: A consecutive series of 109 paediatric patients with cerebral palsy received SDR plus specialised physiotherapy. Mean age was 9.0 (range 1.0-19.6). 59 comprised GMFCS levels 4 and 5. SDR guided by electrophysiological monitoring was performed by a single experienced neurosurgeon. All subjects received equivalent physiotherapy. Spasticity of upper and lower limb muscle groups were quantified and standardized using the Ashworth score. Measures were collected at baseline and at 2, 8 and 14-month post-operative intervals.

Results: The mean lower limb Ashworth score at baseline was 3.2 (range 0.0-4.0). Following SDR, significant reduction in lower limb spasticity scores was observed at 2 months and maintained at 8 and 14 months post-operatively (Wilcoxon rank p 0.001). The mean reduction at 2, 8 and 14 months were -3.0, -3.2 and -3.2 points respectively (range -4.0-0.0). There were no significant differences in Ashworth scores across post-operative time intervals, suggesting a sustained effect over a one-year period. Subgroup analysis of GMFCS 4 and 5 patients¿comprising those with highest grade spasticity and quadriparesis¿also demonstrated a significant reduction in mean upper limb spasticity scores following SDR (-2.9, Wilcoxon rank p 0.001). No serious adverse events were identified.

Conclusions: We conclude that SDR is safe and¿in combination with physiotherapy¿effectively reduces spasticity in cases of spastic diplegia as well as quadriplegia. Significant improvements in upper limb spasticity are commensurate with those observed in lower limb muscle groups. These gains are furthermore sustained more than a year post-operatively.