O-FUN-04 - Deep brain stimulation for dystonias: correlation between clinical and imagiological findings

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Resumen

Objectives: Correlation between clinical improvement in DBS-treated patients with dystonia and anatomical lead location using Optivise® software.

Material and methods: We evaluated 25 patients with dystonia at 1 year after DBS, targeting GPi. Burke-Fahn-Marsden dystonia rating scale (BFMDRS) and Toronto Western Spasmodic Torticollis Rating Scale (TWSTRS) were applied, according to the subtype of dystonia. One patient was also evaluated with the Jankovic Rating Scale. Quality of life's assessment was accomplished with the disability subset of each scale. Electrode position was evaluated by CT-MRI fusing image-based software (Optivise®) and correlated with symptom's improvement.

Results: A reduction in BFMDRS and TWSTRS of 48.6% and 66.4% in each group was observed one year after surgery. A significant improvement in quality of life was verified after one year of DBS in BFMDRS and TWSTRS groups; (-33.4%; and -79.0, respectively). The group with at least one electrode positioned in the target zone, assessed with Optivise®, had a significant reduction in BFMDRS -54.7%. The group in which neither electrode hit the target zone did not varied significantly with respect to the BFMDRS.

Conclusions: DBS appears to be an efficacious alternative for refractory dystonia. GPi location seems to correlate with improvement, although a perfect location could not be determined. Optivise® apparently helps to define the target accurately and seems useful in clinical decision, not only to choose the most appropriate contact to be used, but also in suboptimal results of stimulation.