Campotomy

Stereotactic lesion in the Forel's field H (campotomy) was proposed in 1963 to treat Parkinson disease (PD) symptoms [1) 2)]. Despite its rationale, very few data on this approach have emerged. Additionally, no study has assessed its effects on nonmotor symptoms, neuropsychological functions and quality of life.

Godinho et al. provided a prospective 2-yr assessment of motor, nonmotor, neuropsychological and quality of life variables after unilateral campotomy.

Twelve PD patients were prospectively evaluated using the Unified Parkinson's Disease Rating Scale (UPDRS), the Unified Dyskinesia Rating Scale and the Parkinson's disease quality of life questionnaire (PDQ-39) before campotomy, and after 6 and 24 mo. Nonmotor, neuropsychiatric, neuropsychological and quality of life variables were assessed. The impact of PD on global health was also rated.

A significant reduction in contralateral rest tremor (65.7%, P < .001), rigidity (87.8%, P < .001), bradykinesia (68%, P < .001) and axial symptoms (24.2%, P < .05) in offmedication condition led to a 43.9% reduction in UPSDRS III scores 2 yr after campotomy (P < .001). Gait improved by 31.9% (P < .05) and walking time to cover 7 m was reduced by 43.2% (P < .05). Pain decreased by 33.4% (P < .01), while neuropsychiatric and neuropsychological functions did not change. Quality of life improved by 37.8% (P < .05), in line with a 46.7% reduction of disease impact on global health (P < .001).

A significant 2-yr improvement of motor symptoms, gait performance and pain was obtained after unilateral campotomy without significant changes to cognition. Quality of life markedly improved in parallel with a significant reduction of PD burden on global health [3)].

A study provided evidence that PTT, a reactualization of Spiegel’s campotomy, is a valuable surgical option in the treatment of patients suffering from therapy-resistant PD. Its efficiency is demonstrated clearly in comparison with the preoperative medicated (ON) state, and clinical improvements are independent of follow-up length. Compared to all HFS procedures, PTT avoids device-related complications, maintenance measures and costs, and provides a high, stable level of relief to parkinsonian patients whose condition cannot be controlled by pharmacotherapy. PTT surgery obeys the requirements imposed by the physiopathological framework of the thalamocortical dysrhythmia, for which evidence has been collected at pallidal, thalamic and cortical levels. The data indicate that sufficient surgical control of the TCD might provide a causal and, even, protective effect on the brain. The TCD does, indeed, promote thalamic and cortical cell death. In addition, we propose that the regularly observed resistance of axial signs might require a larger view of the situation of the PD patient, including analysis of the relevance of ideoaffective factors [4)].

1)
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2)
SPIEGEL EA, WYCIS HT, SZEKELY EG, BAIRD HW 3rd, ADAMS J, FLANAGAN M. Campotomy. Trans Am Neurol Assoc. 1962;87:240-2. PubMed PMID: 13990092.
3)
Godinho F, Magnin M, Filho PT, Reis P, Moraes O, Nascimento M, Costa C, de Oliveira MO, Rocha MS. Stereotactic Lesion in the Forel's Field H: A 2-Years Prospective Open-Label Study on Motor and

Nonmotor Symptoms, Neuropsychological Functions, and Quality of Life in Parkinson Disease. Neurosurgery. 2019 Oct 1;85(4):E650-E659. doi: 10.1093/neuros/nyz039. PubMed PMID: 30815692. [4)]

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