Bilateral pallidotomy

Pallidotomy has gone through several ebbs and flows. Unilateral pallidotomy is currently recommended for dystonia and Parkinson's disease treatment of motor symptoms. The need for further research and improved technology to make the technique safer and prove its efficacy is highlighted, especially keeping in mind a large number of populations to which the prohibitively expensive deep brain stimulation is unavailable [1].

Pallidotomy is an alternative to deep brain stimulation for the treatment of the involuntary movements known as dyskinesias which can become a problem in people with Parkinson's disease after long-term treatment with levodopa — a condition known as levodopa-induced dyskinesia.

It is also sometimes used an alternative to deep brain stimulation to treat difficult cases of essential tremor.

Unilateral posteroventral pallidotomy can be effective at reducing Parkinsonism, but is associated with impaired language learning (if performed on the dominant hemisphere) or impaired visuospatial contructional ability (if performed on the non-dominant hemisphere). It can also impair executive functions.

Bilateral pallidotomy will not reduce Parkisonistic symptoms but will cause severe apathy and depression along with slurred unintelligible speech, drooling, and pseudobulbar palsy.

Pallidotomy has long been an accepted procedure and the indications for this surgery, in the opinion of the responding centers of a survey of current practice in North America (1996), were rated on a scale of 1 (poor) to 4 (excellent) and demonstrated dyskinesia as the best indication (median = 4); on-off fluctuations, dystonia, rigidity, and bradykinesia as good indications (median = 3); and freezing, tremor and gait disturbance as fair indications (median = 2). Most centers used MRI alone (50%) or in combination with CT scan (n = 6) or ventriculopathy (n = 5) to localize the target. The median values of pallidal coordinates were: 2 mm anterior to the midcommissural point 21 mm lateral to the midsagittal plane and 5 mm below the intercommissural line. Microrecording was performed by half of the centers (n = 14) and half of the remaining centers were considering starting it (n = 7). Main criteria used to define the target included the firing pattern of spontaneous neuronal discharges (n = 13) and the response to joint movement (n = 10). Most centers performed motor (n = 26) and visual (n = 23) macrostimulation. Twenty four centers performed test lesions using median values of 55 degrees C temperatures for 30 s. Final lesions consisted of 3 permanent lesions placed 2 mm apart, each lesion created with median values of 75 degrees C temperatures for 1 minute. Median hospital stay was 2 days [2].

1)
Agrawal M, Garg K, Samala R, Rajan R, Singh M. A Scientometric Analysis of the 100 Most Cited Articles on Pallidotomy. Stereotact Funct Neurosurg. 2021 Jun 2:1-11. doi: 10.1159/000516237. Epub ahead of print. PMID: 34077938.
2)
Favre J, Taha JM, Nguyen TT, Gildenberg PL, Burchiel KJ. Pallidotomy: a survey of current practice in North America. Neurosurgery. 1996 Oct;39(4):883-90; discussion 890-2. PubMed PMID: 8880789.

From:
https://neurosurgerywiki.com/wiki/ - **Neurosurgery Wiki**

Permanent link:
https://neurosurgerywiki.com/wiki/doku.php?id=bilateral_pallidotomy

Last update: **2024/06/07 02:59**