

BILATERAL THALAMIC SURGERY: IS IT SAFE AND EFFECTIVE TO COMBINE LESIONING AND DBS FOR INTRACTABLE TREMOR

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Bilateral thalamic surgery can be very effective for bilateral and axial tremor control. Although bilateral DBS is currently advocated for these patients it may be more cost effective to carry out unilateral thalamotomy and contralateral thalamic DBS. Twenty five consecutive patients underwent thalamic surgery between January 1996 and December 2003, for intractable tremor. Twelve patients had tremor dominant PD, 12 had essential tremor and one post traumatic tremor. Eleven underwent thalamotomy alone, 7 had thalamotomy on one side followed by DBS on the contralateral side and 7 had bilateral DBS inserted. Patients were assessed preoperatively and at 3 month intervals postoperatively. Tremor was graded according to the UPDRS score and improvements documented. A list of possible complications was devised and used to record them at each follow up after full neurological examination.

Results were analyzed separately for 3 patient groups:

a) Thalamotomy b) Thalamic stimulation c) Combination.

Tremor benefit was seen in most patients in all 3 categories. Adverse effects, in particular dysarthria were more evident following bilateral procedures (thalamotomy or DBS). But with DBS, dysarthria could be titrated against tremor reduction. Benefit and adverse effects were no different with bilateral DBS or thalamotomy with contralateral DBS.

The authors draw the following conclusions:

1. Unilateral thalamotomy and contralateral thalamic DBS is as safe and effective as bilateral DBS.
2. Bilateral thalamic surgery is subject to increased risk of adverse effects. But the advantage of stimulation is titratability particularly in case of dysarthria.