

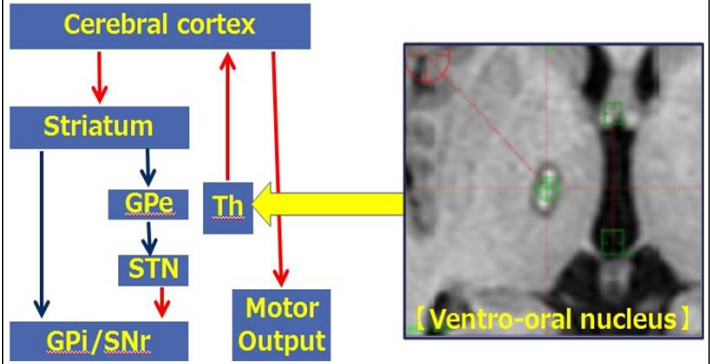
INTRODUCTION

MUSICIAN'S DYSTONIA

- Task specific focal hand dystonia in musicians
- Dystonic symptoms manifested only while playing particular musical instrument
- Leads to interruption / termination in the career of professional musicians: 0.5-8%
- More than half of affected musicians eventually end their careers despite available treatment



STEREOTACTIC VENTRO-ORAL THALAMOTOMY



METHODS

- 63 medically intractable musician's dystonia patients underwent RF Vo thalamotomy between Oct 2003- Sept 2017 at Tokyo Women's Medical University, Japan
- Guitar:28, piano:10, drum:5, saxophone:4, violin:5, bass:2, shamisen:2, clarinet:2, banjo:1, flute:1, koto:1, tuzumi:1, accordion:1
- Tubiana Musician's Dystonia Scale used for evaluation

SURGICAL PROCEDURE

- Local anesthesia with no sedation
- Planning of tentative Vo nucleus target coordinates on MRI:15 mm from the midline, 1 mm superior and 2mm posterior to the midpoint of AC-PC line
- Mono-polar RF probe:2mm exposed tip, 1mm diameter
- Confirmation of target location by impedance monitoring and macrostimulation: 133 Hz, 100 µsec. No MER.

INTRAOPERATIVE MONITORING



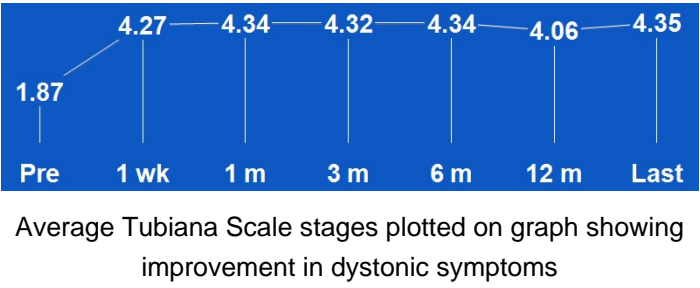
RF lesion made by thermocoagulation:70 degree celcius for 30 sec with simultaneous monitoring of clinical benefit

RESULTS

Males:52, Females:11, Mean age at symptom onset: 32.4 years
Duration of disease varied between 1 and 35 years
Progression to contralateral side: 11 patients (17.5%)
Progression to other tasks: 31 patients (49.2%)

Immediate post surgical improvement of symptoms: 61/63 patients (96.8%)
Mean follow-up:165 months indicating long term effectiveness

OUTCOME



ADVERSE EVENTS

Temporary		Permanent	
Dysarthria	6	Foot Weakness	1
Verbal recall difficulty	2	Verbal recall difficulty	1
Hemiparesis	2		
Total events	10 (15.9%)	Total events	2 (3.2%)
Temporary AE improved in 1 month after surgery			

RECURRENCE

Total number of Patients		3 (4.8%)	
Age at onset (years)		20.0	
Age at surgery (years)		23.3	
Disease duration (years)		3.3	
Time to recurrence	1 month	2	
	3 months	1	

CONCLUSION

This study confirms favorable outcome of musician's dystonia treated with Vo thalamotomy with excellent improvement in symptoms and preservation of effect for a considerable duration at follow-up. Stereotactic ventro-oral thalamotomy is definitely a safe and effective treatment with long lasting benefit when conservative treatment has failed.

LEARNING OBJECTIVES

Musician's dystonia is a potentially disabling task specific dystonia impacting the musician's livelihood.Standard treatment with promising satisfactory and consistent outcome is yet to be proven. Stereotactic ventro-oral thalamotomy can provide a favorable outcome in medically refractory task specific musician's dystonia patients. With significant progress in the surgical aspects of stereotactic thalamotomy over the decades and introduction of modern equipment in the operating room, ventro-oral thalamotomy can prove to be encouraging for beneficial results.