



A YOU MAN PRESENTING WITH POSTTRAUMATIC ORTHOSTATIC TREMOR

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Abstract

Objective: Orthostatic tremor (OT) is a tremor of lower body activated during standing or weight bearing, absent while seated or lying. OT is a rare disease and predominantly affects female seniors with neurodegenerative diseases such as Parkinsonism and restless leg syndrome. There have been few cases of slow OT without underlying diseases or causes, especially after trauma. We report our therapeutic experience in a young man presenting with gait disturbance caused by slow OT occurred after traumatic event.

Case Description: An 18-year-old man complained of regular involuntary movement of the left leg while standing and walking. It appeared the next day after the traffic accident and persisted for 9 months. At the time of the traffic accident, he did not show any fractures or loss of consciousness. Muscle strength of the left lower limb was good. Deep tendon reflex was normoactive. The tremor occurred only under certain conditions such as standing and the stance phase of gait cycle. He could walk independently without gait aid on the flat but could not go up and down the stairs without support. Brain and lumbar spine MRI did not show any abnormal findings. Nerve conduction studies and needle electromyography (EMG) were nonspecific. On surface EMG recordings, slow OT of 5-6 Hz was confirmed during the stance phase. Stretching and strengthening exercise was prescribed. Tibial nerve block with lidocaine temporarily decreased the intensity of tremor. He was treated with botulinum toxin injection on the left gastrocnemius. The amplitudes of tremor examined by surface EMG were declined. He is on beta-blocker. Clinical functional exams such as Berg balance scale, timed up and go test, and 10-meter walking test showed some improvement.

Conclusion: We report a rare case of young man with posttraumatic OT of unknown origin and OT was pretty improved by multiple therapeutic approaches.

Introduction

Orthostatic tremor (OT) is a tremor of lower body activated during standing or weight bearing, absent while seated or lying. OT is a rare disease and predominantly affects female seniors with neurodegenerative diseases such as Parkinsonism and restless leg syndrome. OT can be divided into classical OT (13 to 18 Hz) and slow OT (< 13 Hz) depending on the frequency. There have been few cases of slow OT without underlying diseases or causes, especially after trauma. We report our therapeutic experience in a young man presenting with gait disturbance caused by slow OT occurred after traumatic event.

Case Description

- **18-year-old man**
- **Chief complaints**
 - Regular involuntary left leg movement while standing
 - Left knee jerky movement while walking
- **Past history**
 - No known history of hypertension, DM, hepatitis, and pulmonary tuberculosis
 - No known history of operation
- **Present illness**
 - A traffic accident occurred. (2017.03.31)
 - He had low back pain and left anterior knee pain.
 - Tremor of the left lower limb was recognized while standing. (2017.04.01)
 - He underwent physical therapy such as hot pack and therapeutic exercise and acupuncture at a local clinic.
 - Pain was relieved, but tremor persisted.
 - He visited our clinic for further evaluation and management. (2017.12.20)
- **Physical examination**
 - Muscle stretch reflex : normoreflexic
 - No spasticity
 - Manual muscle test - Rt. L/E : normal
 - - Lt. L/E : good
- **Lab findings**
 - Non-specific

■ Imaging studies

- Simple radiological studies : no abnormal findings
- Spine MRI (2018.05.08) : no abnormal findings
- Brain MRI (2018.05.18) : no abnormal findings

■ Electrodiagnostic studies

- Magnetic motor evoked potential : non-specific
- Somatosensory evoked potential : non-specific
- Nerve conduction study : non-specific

■ Diagnosis

- Orthostatic tremor of unknown origin

■ Hospital course

- Stretching and strengthening exercise training
- Lidocaine nerve blocks
 - Sciatic nerve block : lower thigh level (2017.12.29)
 - Tibial nerve block : posterior calf level (2018.02.01)
 - Intensity of tremor decreased temporarily.
- Caudal block : no significant effect (2018.02.)
- Botulinum toxin injection
 - Left gastrocnemius, 25 unit × 4 = 100 unit
 - Tremor and left knee jerky movement improved.
- On medication (B-blocker)
 - Intensity of tremor decreased. (2018.05.30 - 09.13)

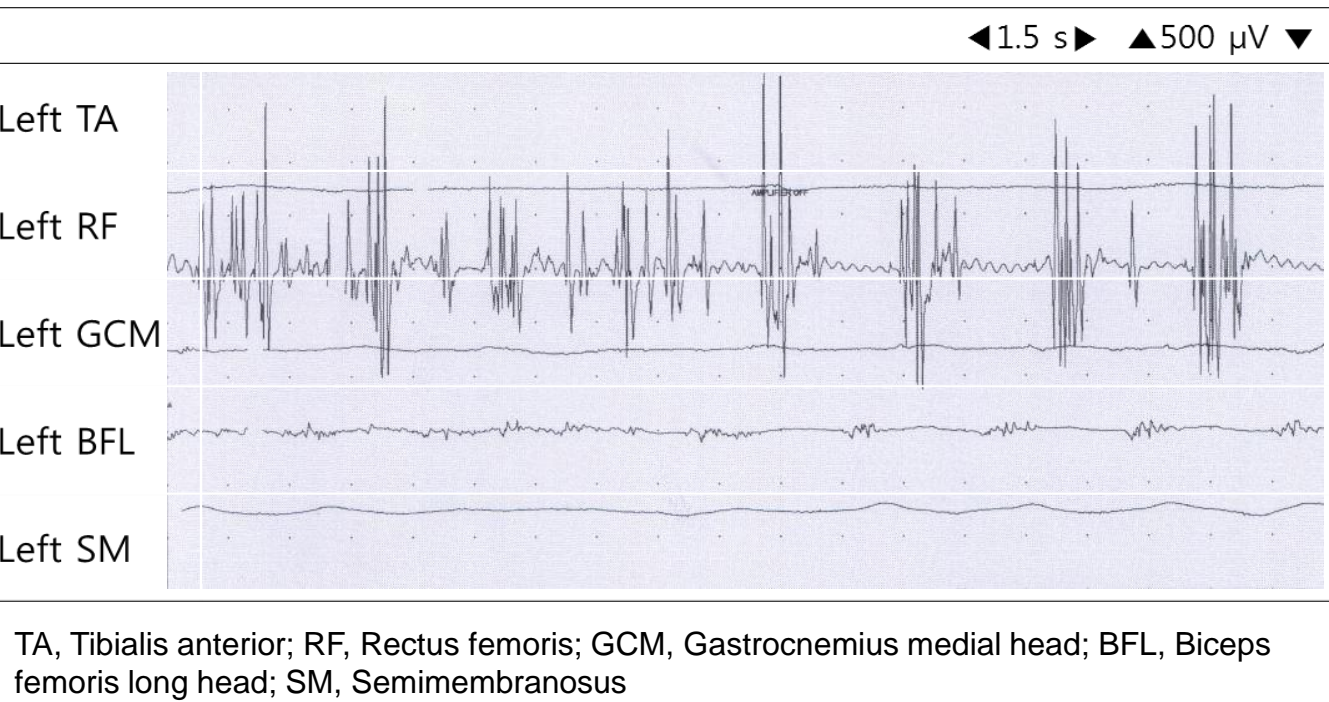
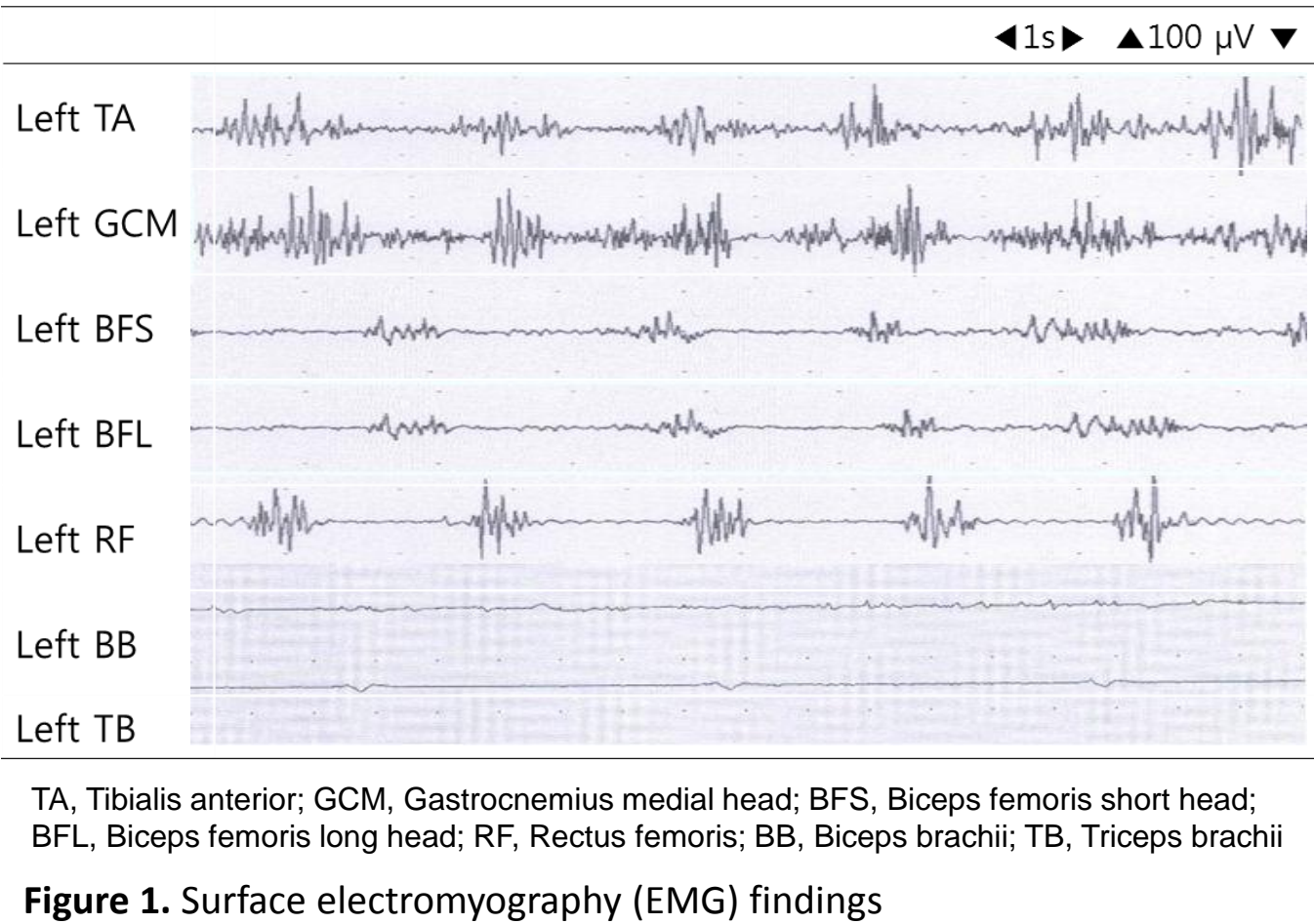


Figure 2. Multichannel needle EMG findings after botulinum toxin injection

Table 1. Change of functional parameters

	Before Treatment	After Treatment
MMT (Right/Left)	L/E (N/G)	L/E (N/G)
Berg balance scale	44	51
Timed up and go test (sec)	13.49	9.94
10 m walking test (m/sec)		
comfortable walking	0.87	0.67
fast walking	1.13	0.89

Conclusion

We report a rare case of young man with posttraumatic OT of unknown origin and OT was pretty improved by multiple therapeutic approaches.

References

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