# Botulinum Neurotoxin type A is effective to treat peripheral myoclonus post-amputation

# A MOVING RESIDUAL LIMB: BOTULINUM TOXIN TO THE RESCUE A CASE REPORT

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### **INTRO**

- Peripheral myoclonus is a rare post-amputation complication characterized by sudden, brief and sometimes repetitive muscle contractions.
- BoNT-A prevents the release of the neurotransmitter acetylcholine at the axon ending of the neuromuscular junction and blocks contraction.
- · No standard treatment exists.

### **METHODS**

- A 57-year-old man with belowknee amputation due to infected post-traumatic aneurysm of the popliteal artery developed myoclonus in his stump.
- Reported injection protocols, lasting treatment time, donning time-period, and satisfaction of the patient.

| Injections                   | Time                            | Total units (U)  | Eff<br>(w) | Prost -<br>Time (h) | Satisf<br>0-10 |
|------------------------------|---------------------------------|--|------------|---------------------|----------------|
| BoNT-A<br>injection 1        | Feb<br>2016<br>Total U<br>100   | Medial gastrocnemius - 25<br>Lateral gastrocnemius - 50<br>Peroneus longus - 15<br>Peroneus brevis - 10                            | 2          | 8                   | 3              |
| BoNT-A<br>injection 2        | May<br>2016<br>Total U<br>200   | Medial gastrocnemius - 50 Lateral gastrocnemius - 75 Peroneus longus - 25 Peroneus brevis - 25 Tibialis anterior - 25              | 2          | 8                   | 3              |
| BoNT-A<br>injection 3*       | Nov<br>2016<br>Total U<br>300   | Medial gastrocnemius - 75<br>Lateral gastrocnemius - 75<br>Peroneus longus - 50<br>Tibialis anterior - 100                         | 8          | 8                   | 3              |
|                              |                                 | Total year injection: 600 U  |            |                     |                |
| BoNT-A<br>injection 4        | Feb<br>2017<br>Total U<br>300   | Medial gastrocnemius - 75<br>Lateral gastrocnemius - 75<br>Peroneus longus - 50<br>Tibialis anterior - 100                         | 8          | 16                  | 4              |
| BoNT-A<br>injection 5        | April<br>2017<br>Total U<br>300 | Medial gastrocnemius - 75<br>Lateral gastrocnemius - 100<br>Peroneus longus - 25<br>Peroneus brevis - 25<br>Tibialis anterior - 75 | 6          | 16                  | 4              |
| BoNT-A<br>injection 6        | July<br>2017<br>Total U<br>400  | Medial gastrocnemius - 100<br>Lateral gastrocnemius - 125<br>Peroneus longus - 100<br>Peroneus brevis - 75                         | 10         | 16                  | 7              |
| Total year injection: 1000 U |                                 |  |            |                     |                |
| Eval p-i                     | Sept.<br>2017                   |  | 8          | 16                  | 9              |

## **RESULTS**

- Discomfort improved after injections and led to a longer donning period.
- Multiple attempts were necessary before finding the best muscle injection combination.

Pre-ini video:



Post-inj video:



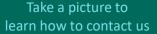
### **DISCUSSION**

- BoNT-A is not officially indicated for peripheral myoclonus treatment, but was effective in this case.
- After failure of conservative treatments, BoNT-A should be considered as a therapeutic approach.









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