**Table 1S: Frequency and proportion of injections for botulinum toxin A (BoNT-A) in long-term care (LTC) by indication\***

|  |  |  |  |
| --- | --- | --- | --- |
| **Indication** | **Frequency (%)** | **Mean Proportion (%)**  | **Proportion Range (%)** |
| Spasticity | 100% | 65% | 20-90% |
| Paratonia | 93% | 24% | 5-80% |
| Focal dystonia | 73% | 10% | 1-20% |
| Cervical dystonia | 60% | 6% | 1-10% |
| Blepharospasm/hemifacial spasm | 20% | 3% | 1-5% |
| Other (contractures, rigidity, sialorrhea) | 27% | 6% | 1-15% |

\*N=15 (Number of respondents treating residents of LTC with BoNT-A)

**Table 2S: “How is paratonia different from spasticity?”**

|  |  |  |
| --- | --- | --- |
| **Paratonia definition theme** | **Frequency (32 respondents) themes reported** | **Frequency (27 respondents) themes reported** |
| 1. Occurs in setting of cognitive impairment/dementia (1)
 | 6 | 6 |
| 1. Associated with neurodegeneration of the brain/frontal lobe decline/supraspinal mechanism (20)
 | 3 | 3 |
| 1. Resistance to passive movement (2)
 | 10 | 9 |
| 1. Velocity dependent (7)
 | 3 | 3 |
| 1. Not velocity dependent (8)
 | 12 | 11 |
| 1. Active resistance to passive movement (19)
 | 2 | 2 |
| 1. Involuntary (27)
 | 5 | 5 |
| 1. Voluntary (29)
 | 1 | 1 |
| 1. Progresses over time (9)
 | 1 | 1 |
| 1. Inability to relax muscles (facilitatory or oppositional) (13)
 | 5 | 5 |
| 1. Variable (14)
 | 8 | 5 |
| 1. Tone increases with increasing movement (3)
 | 10 | 7 |
| 1. Tone decreases with increasing movement (17)
 | 1 | 1 |
| 1. Diffuse (4)
 | 1 | 1 |
| 1. May occur in any direction (5)
 | 3 | 2 |
| 1. Constant, not movement dependent (22)
 | 1 | 1 |
| 1. No spastic catch (10)
 | 2 | 2 |
| 1. Spasticity occurs in dementia not paratonia (15)
 | 1 | 1 |
| 1. Is disabling (18)
 | 1 | 1 |
| 1. Not due to upper motor neuron lesion (6)
 | 4 | 4 |
| 1. Diffuse upper motor neuron disorder (16)
 | 1 | 1 |
| 1. Unable to relax muscles (facilitatory or oppositional) (13)
 | 5 | 5 |
| 1. Inhibits care (11)
 | 1 | 1 |
| 1. Not stretch dependent (23)
 | 1 | 0 |
| 1. No dystonia (24)
 | 1 | 0 |
| 1. Not bothersome, patients unaware (25)
 | 1 | 1 |
| 1. Similar to dystonia/rigidity/involves co-contractions (26)
 | 2 | 2 |
| 1. Can lead to sustained postures (contractures) (28)
 | 1 | 1 |
| 1. Apparent voluntary withdrawal (refusal of care (30)
 | 1 | 1 |
| 1. Same level of disability as spasticity (21)
 | 1 | 1 |
| 1. May not respond to botulinum toxin A (BoNT-A) (12)
 | 1 | 1 |

**Table 3S: Trigger for botulinum toxin A (BoNT-A) treatment of paratonia**

|  |  |
| --- | --- |
|  | **Frequency (%) N=23\*** |
| Modified Ashworth Scale (MAS) | 57% |
| Grade 1Grade 2Grade 3Grade 4 | 4% |
| 13% |
| 35% |
| 0% |
| Carer Burden Scale | 30% |
| Request from caregiver (family or professional) | 91% |
| Consequences of involuntary postures |   |
| Pressure ulcer | 96% |
| Pain when manipulating limb | 100% |
| Caregiver burden (reporting of involuntary postures interfering in care like toileting, dressing, hygiene, etc.) | 96% |
| Difficulty positioning or applying splint due to involuntary posture | 96% |
| Contractures | 70% |
| OtherSkin breakdown, maceration, odor in hand | 13% |

\*2 respondents don’t treat paratonia and 2 respondents don’t treat paratonia with BoNT-A)

**Table 4S: Patients treated with botulinum toxin A (BoNT-A) for paratonia in long-term care (LTC)/Clinic or a rehabilitation/acute care facility**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Location\*†** | **0** | **1-5/month** | **6-10/month** | **11-20/month** | **21-30/month** |
| LTC (N=15) | 7% | 53% | 20% | - | 20% |
| Clinic/office (N=12) | 8% | 67% | 17% | 8% | - |
| Rehabilitation Facility/Acute care (N=2) | - | 100% | - | - | - |

**\***Injectors may inject in multiple settings

†N=23; 2 respondents don’t treat paratonia and 2 respondents don’t treat paratonia with BoNT-A

**Table 5S: Botulinum toxin A (BoNT-A) brands and average doses with ranges used for injections in paratonia**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Brand** | **Frequency (%)\*** | **Mean dose (min/max)** | **Mean proportion (%)** | **Range of proportions†****(%)** |
| *OnabotulinumtoxinA (Botox™)* | 100% | 325 IU (100-800) | 83% | 10-100% |
| *IncobotulinumtoxinA (Xeomin™)* | 43% | 32% | 10-90% |
| *AbobotulinumtoxinA (Dysport™)* | 30% | 1000 Dysport Units (400-2400) | 11% | 5-20% |

\*N=23 total number of injectors that treat paratonia with BoNT-A

†Ranges do not include 0% responses, i.e., those who don’t use the brand

**Table 6S:** **Outcome measures used to determine effect of botulinum toxin A (BoNT-A) for paratonia**

|  |  |
| --- | --- |
|  | **Frequency (%)\*** |
| Subjective reporting of caregiver | 87% |
| Subjective overall impression (clinician) | 78% |
| Modified Ashworth Scale (MAS) | 48% |
| Goniometer measurement of angles | 48% |
| Goal Attainment Scale (GAS) | 22% |
| Clinical Global Impression of Change (CGI) | 13% |
| Carer Burden Scale (CBS) | 4% |
| Tardieu Scale  | 4% |

\* N=23 2 respondents don’t treat paratonia and 2 respondents don’t treat paratonia with BoNT-A