

HOW WE MANAGE POST-STROKE SPASTICITY IN OUTPATIENT CLINICS:

16 YEAR EXPERIENCE OF A REFERENCE CENTER

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INTRODUCTION

Spasticity is common in patients who suffered a stroke, with the incidence reported in different studies ranging from 17-38%. (1)

Botulinum toxin (BoNT-A) proved to be an effective treatment to reduce focal spasticity. Nowadays, we know that there is an individual variation in response to BoNT-A and variations in treatment regarding selection of muscle injection technique and concomitant therapy interventions, appear to have more with clinician and local availability of services, than with clinic presentation.

Recent studies value the importance of knowing how BoNT-A is used in routine clinical practice and because of that we decided to look at our data, compare it to the publications and describe our general practice.

OBJECTIVES

To describe the real-life practice of a reference center with a large experience of 16 years using Botulinum toxin type A (BoNTA) in a multimodal approach to the management of post-stroke spasticity (PSS).

METHODS

This was an observational cross-sectional study. Data were prospectively collected in a specific form. Patients included were treated in the outpatient botulinum toxin clinic in 2014, including data from all previous and posterior injections from 2001 to 2016. We analyzed: age, diagnosis, impairment, interval between stroke and first BoNTA treatment, follow-up time, number of BoNTA treatments per patient/year, muscles and BoNTA formulations selection.

RESULTS

The median interval stroke-first BoNTA treatment, was 0.96 years (0.09-9.82).

The mean interval between stroke and BoNTA treatment was 5,03 years (SD3,63). Aetiology was ischemic in 64%. Impairment was right hemiparesis in 55%. Mean BoNTA sessions/patient was 9 (SD 6; 1-26) and the mean follow-up time 4.2 years (SD 3.4).

	UL-BoNTA
	N=117
Age at stroke (mean)	53,94 years (SD12,37)
Gender	
Male	56%
Female	44%
Etiology	
Ischemic	64%
Localization	
left hemisphere	51%
right hemisphere	41%
posterior circulation	5%
Unknown	3%
Impairment	
Right hemiparesis	55%
Stroke-first BoNTA interval (mean)	0,96 years (range, 0,1 to 9,8)
Number of BoNTA sessions	9 (SD 6; range, 1-26)
Follow-up time (mean)	4,18 years (SD 3,35)

FIG 1: Patients characteristic's

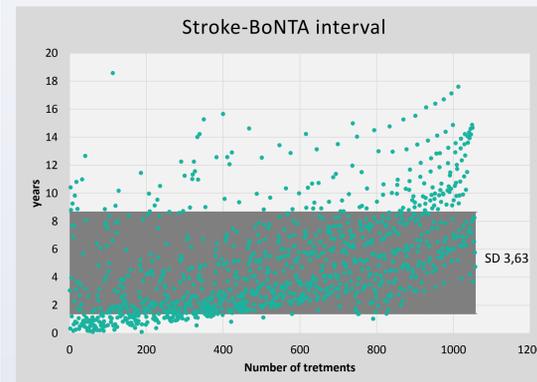


FIG 2: Interval between stroke and first BoNT-A treatment.

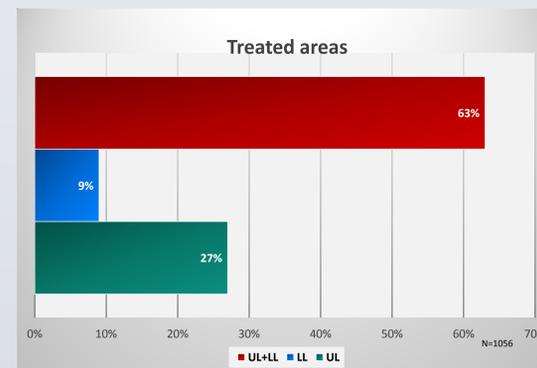


FIG 3: Percentage of treated areas with BoNT-A.

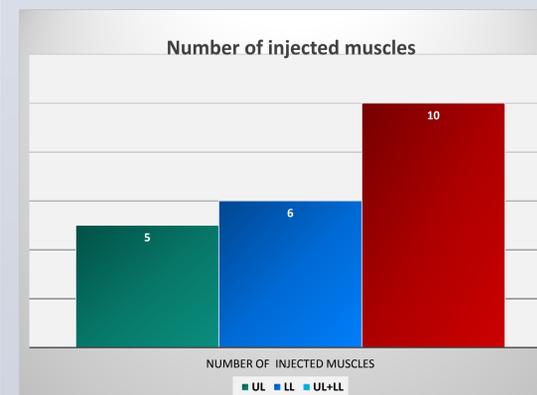


FIG 4: Injected muscles with BoNT-A.

Abobotulinum toxin was used in 69% injections and the mean total dose was 1108U (SD 367); Incobotulinum toxin in 17% with a mean total dose of 402U (SD 138); Onabotulinum toxin in 13% with a mean total dose of 368U (SD 113).

	Percentage of sessions	Total dose (mean + SD)
Abobotulinum	69%	1108U (SD367)
Incobotulinum	17%	402U (SD138)
Onabotulinum	13%	368U (SD113)

FIG 5

Patients had upper and lower limbs (UL+LL) BoNTA treatments in 63%, UL in 27% and LL in 9% of sessions. The mean number of injected muscles per session was 10 (3-18; SD3) for UL+LL, 6 (2-13; SD1.93) for UL and 5 (2-11; SD1.81) for LL.

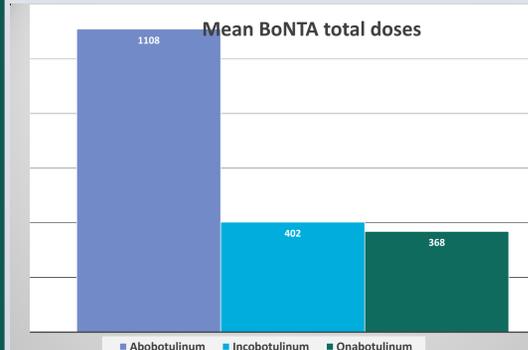


FIG 5, 6: Mean BoNT-A total doses.

The most frequently UL injected muscles were: Flexor digitorum superficialis (62%) and Biceps (60%). The LL most frequently injected muscles were: gastrocnemius medialis and lateralis (59%) and Soleus (48%).

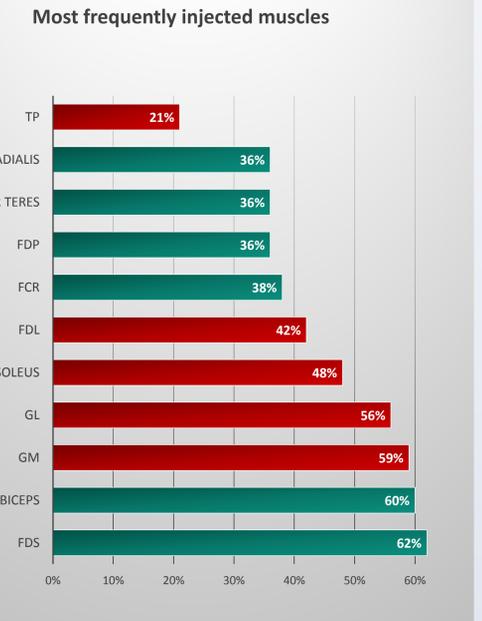


FIG 7: Most frequently injected muscles in the upper (green) and in the lower limb (red). TP: tibialis posterior; FDP: flexor digitorum profundus; FCR: flexor carpi radialis; FDL: flexor digitorum longus; GL: gastrocnemius lateralis; GM: gastrocnemius medialis; FDS: flexor digitorum superficialis

CONCLUSIONS

We conclude that our data is according to recent literature, regarding our sample characteristics.

The selected muscles, BoNT-A doses and frequency of treatment sessions are also in line with the most recent publications.

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