

DEFINING PATIENT-CENTRED GOALS IN BOTULINUM TOXIN POST-STROKE SPASTICITY

DO TREATED REGIONS MATTER?

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INTRODUCTION

Current guidelines for the use of BoNT-A, in the management of spasticity, recommend the application of focused outcome evaluations, targeted on the attainment of priority goals that are relevant for treatment and for patients. The Goal Attainment Scalling (GAS) is a method of measuring achievement of one primary goal and a maximum of 3-4 secondary goals into a single score, in order to capture the success in reaching the goals of intervention.

These goals should be negotiated by the rehabilitation team and the patient and/or carers, established according to SMART rules and can be categorized based on "Goal Attainment Scalling – Evaluation of outcomes for Upper-limb spasticity" (GASeous).

The tool "GASeous" categorizes the goals into goal domains - Domain 1 (D1): Impairment/Symptoms, domain 2 (D2): Activities/Function- and goal areas -for D1: pain/discomfort; involuntary movements; range of movement/prevention of contractures; for D2: passive function; active function and mobility-, based on International Classification of Functioning, Disability and Health (ICF).

OBJECTIVE

To identify if there were differences in defining patient-centred goals whether the upper limb (UL), lower limb (LL) or both upper and lower limb (UL+LL) were treated and to evaluate goal achievement.

METHODS

This was an observational retrospective cross-sectional study. Data was prospectively collected in a specific form. Patients were treated in the outpatient botulinum toxin clinic in 2014, including data from all previous and posterior injections (2001-2016). Treatment goals were categorized based on the tool "GASeous".

Injected muscles were described according to frequency, for UL, LL and UL+LL sessions.

RESULTS

There were 117 stroke patients and a total of 1056 botulinum toxin sessions. Mean age at stroke was 53.94 years (SD 12.37), 56 % were males and the median stroke-first BoNTA interval was 0.96 years (0.09-9.82). The most frequent aetiology was ischemic (64%). The most frequent impairment was right hemiparesis (55%). The mean BoNTA sessions was 9 (SD 6; 1-26) and the mean follow-up time was 4.18 years (SD 3.35).

Most frequently patients had UL+LL BoNTA treatments (63%), UL in 27% and 9% LL.

	UL-BoNTA
-	N=117
Age at stroke (mean)	53,94 years (SD12,37)
Gender	
Male	56%
Female	44%
Etiology	
Ischemic	64%
Localization	
Right hemisphere	41%
left hemisphere	51%
Infratentorial	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 demographics.

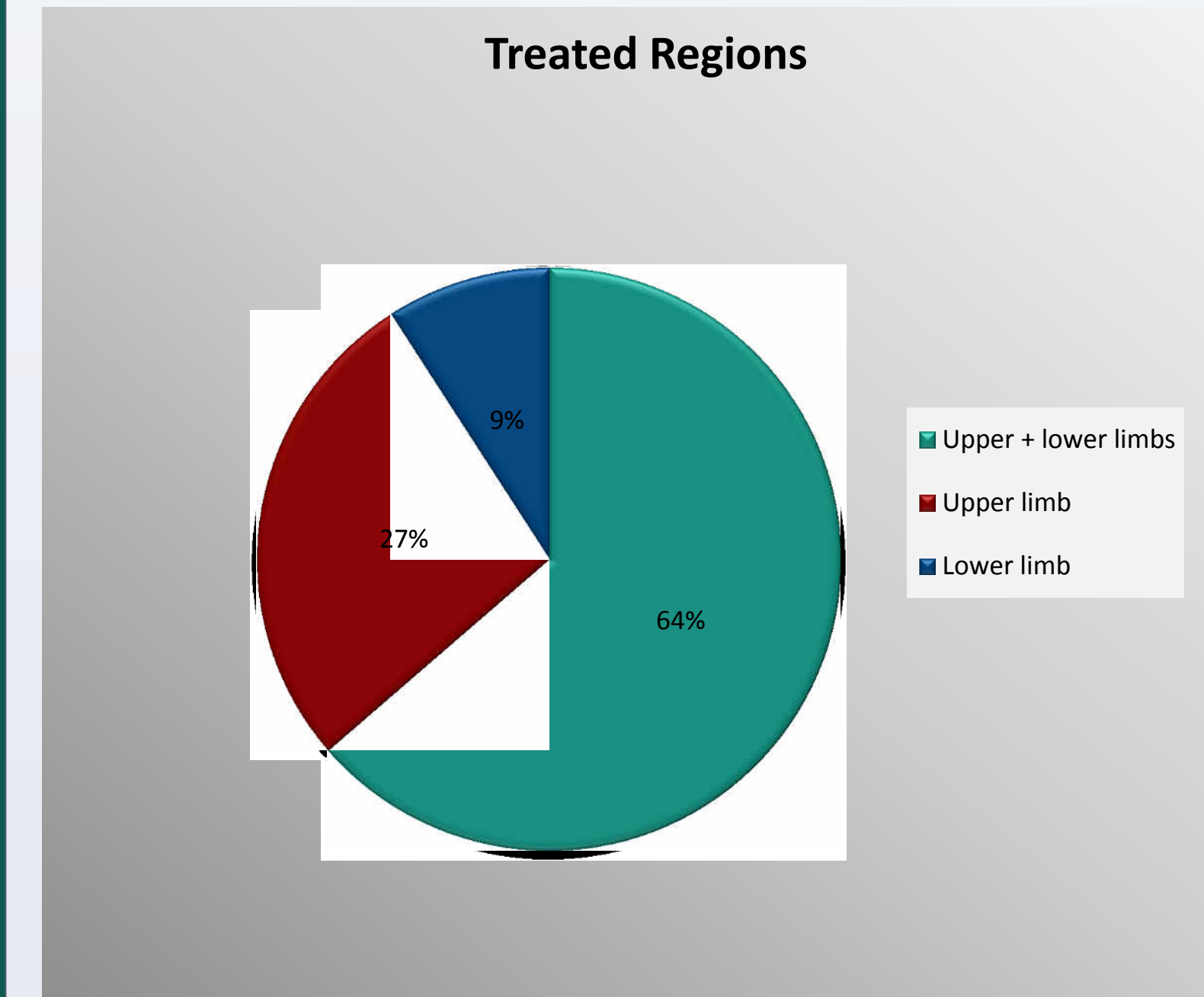


FIG 2: Percentage for target areas.

Patients treated for UL+LL, the most frequent goal domain was D1 (58%) versus D2 (42%); in UL D1 was most frequent (74%) versus D2 (26%); while treating only LL the most frequent goal domain was D2 (73%) versus D1 (27%).

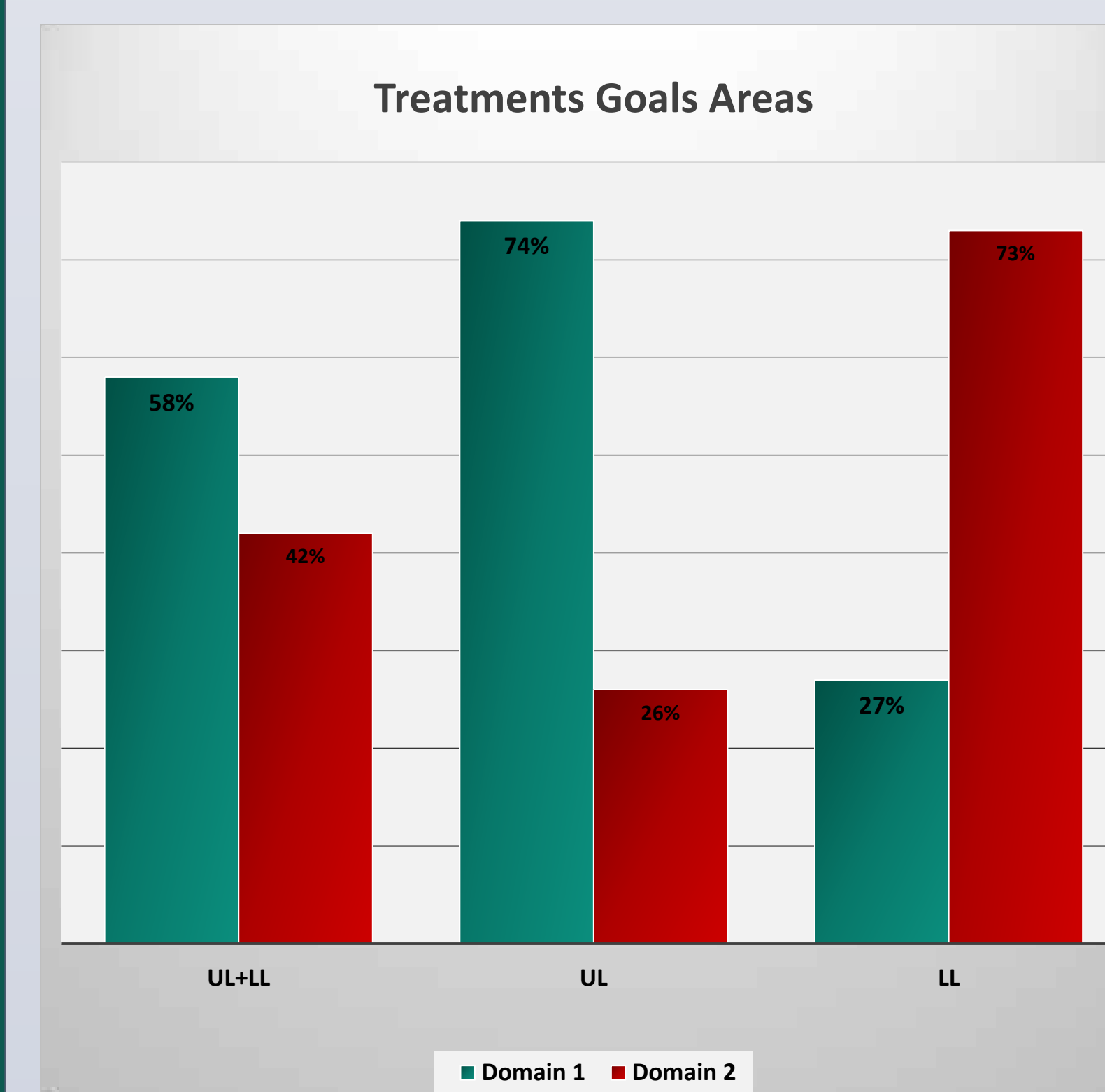


FIG 3:Percentage of treatments / target area / domain.

The most frequent goals areas in the different regions treated were, for both limbs "Involuntary movements" in 30,6% and "Mobility" in 29,6%; in the UL only "involuntary movements" in 35,5% and "Range of movement/prevention of contracture" in 20,71% and, in the LL only, "Mobility" in 57,81% and "Involuntary movements" in 14,06%.

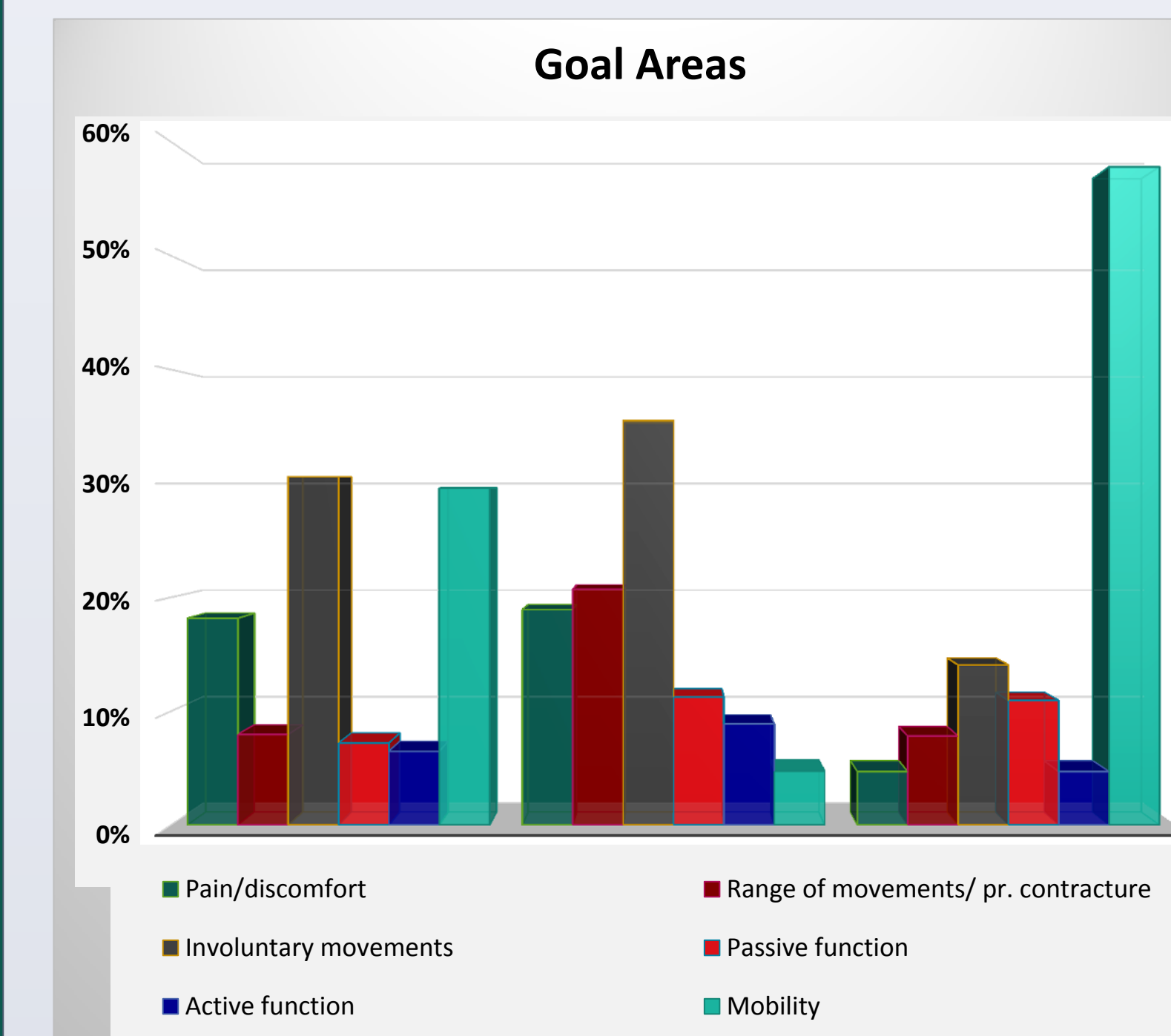


FIG 4: Percentage of goal areas categorizes according GASeous tool.

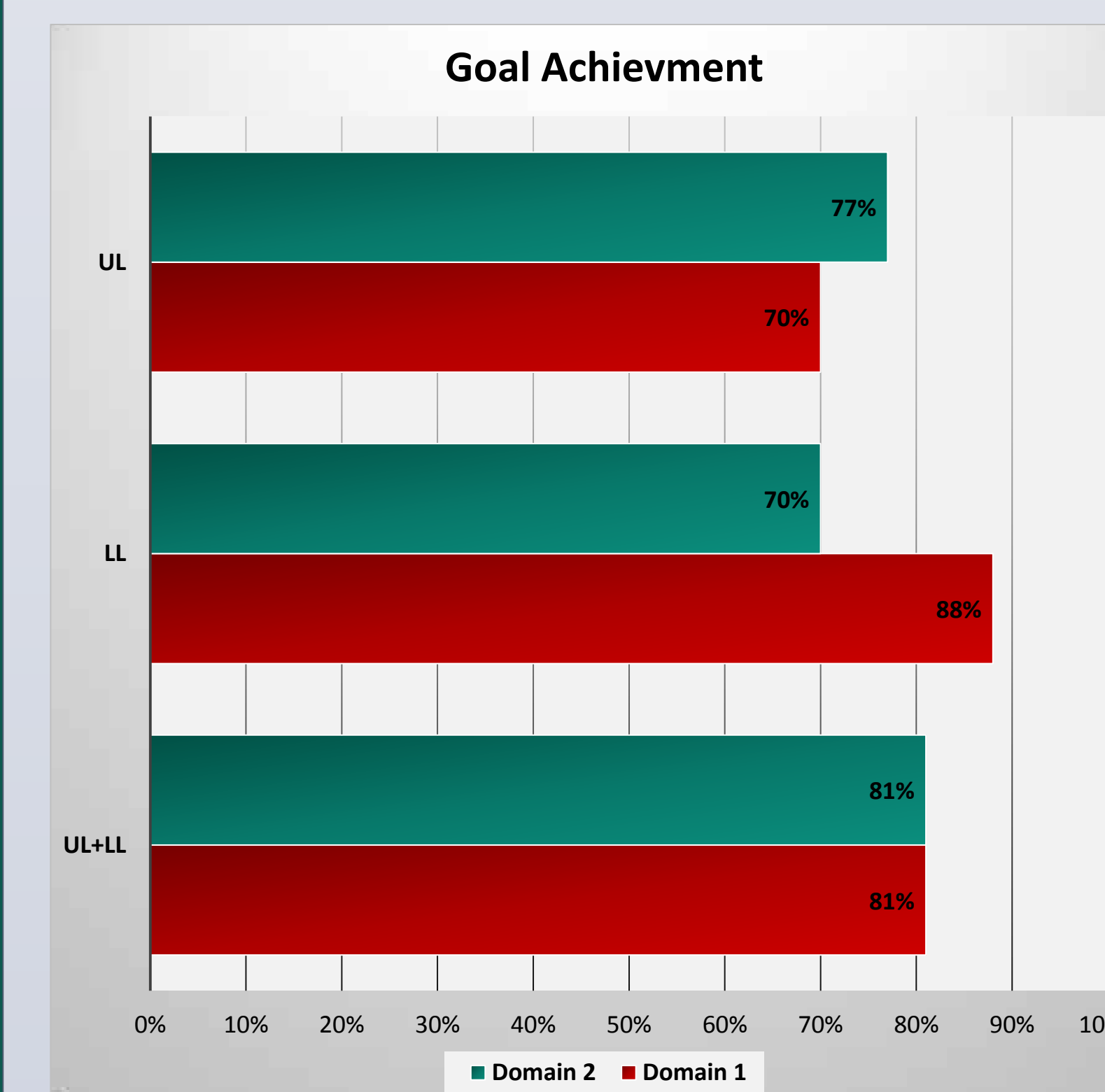


FIG 5: Percentage of goal achievement / target area/ domain.

In UL+LL treatment sessions goals were achieved or over achieved in 81% for both D1 and D2 domains; in UL in 70% and 77% and in LL 88% and 70%, respectively.

CONCLUSIONS

We found different frequencies of goal domains according to the treated limbs. Impairment/symptoms appeared to be more associated to UL and activities/function to LL. When UL+LL were injected the difference wasn't so evident. Goal achievement was ≥ 70% in all cases. D2 goals had better achievement in general, which we think can be related to the youngish age and relatively early initiation of treatment with BoNTA (<1year).

REFERENCES

- Turner-Stokes L, Ashford S, Jacinto J, et al. Impact of integrated upper limb spasticity management including botulinum toxin A on patient-centred goal attainment: rationale and protocol for an international prospective, longitudinal cohort study (ULIS-III). *BMJ Open* 2016;6:e011157. doi:10.1136/bmjopen-2016-011157
- Ashford S, Fheodoroff K, Jacinto J, Turner-Stokes L. Common goal areas in the treatment of upper limb spasticity: a multicentre analysis. *Clin Rehabil*. 2016 Jun;30(6):617-22. doi: 10.1177/0269215515593391. Epub 2015 Jul 3
- Ward AB, Aguilar M, De Beyl Z, Gedin S, Kanovsky P, Molteni F, Wissel J, Yakovlev A. Use of botulinum toxin type A in management of adult spasticity—a European consensus statement. *J Rehabil Med* 2003;35:98-99.
- Zorowitz RD, Gillard PJ, Brainin M. Poststroke spasticity: sequelae and burden on stroke survivors and caregivers. *Neurology*. 2013;80(3 Suppl 2):S45-52. doi: 10.1212/WNL.0b013e3182764c86.

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