Botulinum toxin in the treatment of resistant depressive disorder: Comparison of two facial injection sites

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INTRODUCTION

In the last decade, 3 randomized, placebo-controlled studies, have suggested that **Onabotulinumtoxin A (OnaA)** into glabellar muscles could be a safe and effective treatment for **resistant depressive disorder** (1,2,3).

OBJECTIVE

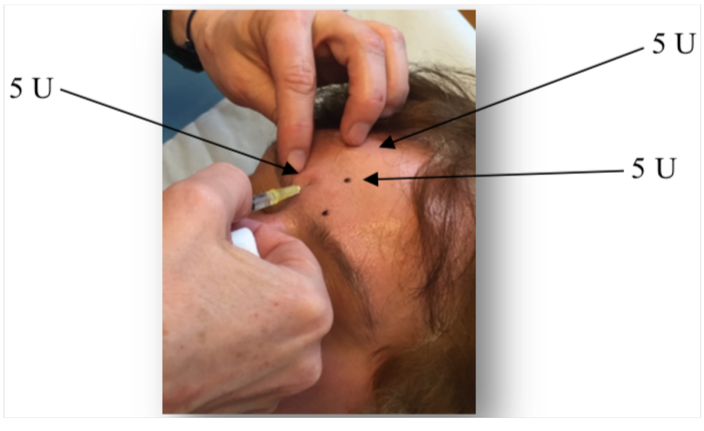
To confirm or infirm previous results, using another methodology.

METHODS

✓ Single blind, **randomized trial**

✓ All patients received OnaA injections, and were randomly assigned to two sites of injection:

« Glabellar » group: injections into the ***procerus*** and **both *corrugator***



« Crow's feet » group: injections into the ***orbicularis oculi***

✓ **PRIMARY OUTCOME: changes from baseline in MADRS (Montgomery and Asberg Depression Rating Scale) score at 6 weeks**

PRELIMINARY RESULTS

PRIMARY OUTCOME

Variables	« Glabellar » group (n = 12)	« Crow's feet » group (n = 11)	p
MADRS score at week 0 (mean +/- standard deviation (SD))	36,8 ± 7,7	35,9 ± 7,9	0,08
MADRS at week 6 (mean +/- standard deviation)	15,7 ± 6,1	24,0 ± 9,9	**0,013* (S)**
% of change in MADRS score (6 weeks after the baseline)	**57,6**	36,0	**0,004* (S)**

*significant

SECONDARY ENDPOINTS

Variables		« Glabellar » group (n = 12)	Crow's feet group (n = 11)	p
Response rate (% patient responders)		10	1	< **0,01*(S)**
Remission rate (% patient remitters)		1	1	NS
Hamilton Anxiety (HAM-A) scale (mean ± SD)	V0	28 ± 7,1	27,6 ± 7,3	NS
	V2	19,1 ± 5,4	19,8 ± 8,9	NS
EGF scale (global assessment functionning) (mean ± SD)	V0	41,4 ± 11,9	40,3 ± 14,8	NS
	V2	66,3 ± 9,8	52,0 ± 14,3	**0,004*(S)**
Clinical Global Impressions (CGI) scale (mean ± SD) • **CGI 1**	V0	5,4 ± 0,7	5,5 ± 0,9	0,88 (NS)
	V2	3,58 ± 0,79	4,72 ± 1,42	**0,037 (S)**
• **CGI 2**	V2	2,50 ± 0,80	3,55 ± 0,82	**0,011 (S)**
• **CGI 3**	V2	6,33 ± 2,61	10,09 ± 4,03	**0,016 (S)**
Muscular relaxation perceived by patients (mean ± SD)		2,2 ± 2,8	0,9 ± 2,4	0,347 (NS)

CONCLUSION

Using a **different methodology**, these preliminary results support the view that **OnaA into the glabellar muscles may be a safe and effective treatment for resistant depressive disorder**. We suggest that OnaA may act as **a neuromodulator of the mirror neurons system** by reducing the motor input to the premotor area.

(1) Wollmer MA & al. Facing depression with botulinum toxin: A randomized controlled trial. *Journal of Psychiatric Research* 46 (2012) 574-581
(2) Finzi E, Rosenthal NE. Treating depression with OnabotulinumtoxinA: A randomized, double-blind, placebo controlled trial. *Journal of Psychiatric Research* 52 (2014) 1-6
(3) Magid M & al. Treatment of Major Depressive Disorder Using Botulinum Toxin A: A 24-Week Randomized, Double-Blind, Placebo-Controlled Study. *The Journal of Clinical Psychiatry 75* (2014) 837-844