UTILITY BOTULINUM TOXIN INJECTIONS IN SEVERE SPASTIC DYSARTHRIA

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INTRODUCTION

Dysarthria affects about 40-60% of individuals with Multiple Sclerosis (MS), primarily consisting of a combination of spastic and ataxic components.

Little is known about the effectiveness of available treatments.

Nor is there any reference in current scientific literature about the potential effects of local spastic treatment with ultrasound guided botulinum toxin injections (USgi-BT), as complimentary therapy for severe spastic dysarthria in MS.

CASE REPORT

Male, 33 year old and connatal Encephalopaty (right hemiparesis secuela).

Profession: Gardener.

Diagnosis (since 1 year): Primary Progressive Multiple Sclerosis (PPMS), with an ataxic-spastic component.

Progressive motor function deterioration associated to a severe, progressive dysarthria to the point where his speech was completely unintelligible.

Due to this, he was using his mobile phone as an effective communication aid.

He kept attending speech-language therapy sessions and we increased his habitual oral antispastic medication dose (baclofen) to 40mg/8h, but without clinical improvement. Therefore, we decided to relax the strainest muscles in word production with local antispastic treatment to improve his oral articulatory ability. We designed a USgi-BT protocol that included bilateral temporal and masseter muscles, using a dosage of 20 IU botulinum toxin (incobotulinumtoxinA) in each one, injected in only one point.

After 4 weeks, the patient showed great improvement. The new assessment revealed faster praxias perfomance, slow but complete oral diadococinesia, and a complete intelligibility of spontaneus speech (Figure 2). We still observed a light prosodic distorsion by speech inflections reduction and sligthly slowed rate (secondary to a smooth syllabication). His oral communication function was fully achieved at this point. He didn´t need communication aids, and he was able to speak with strangers without comprehension difficulties. Three months later, the patient maintained these findings.

Image of ultrasound guided botulinum toxin injections in masseter muscles

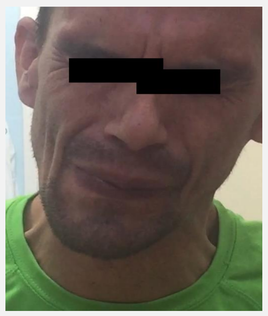
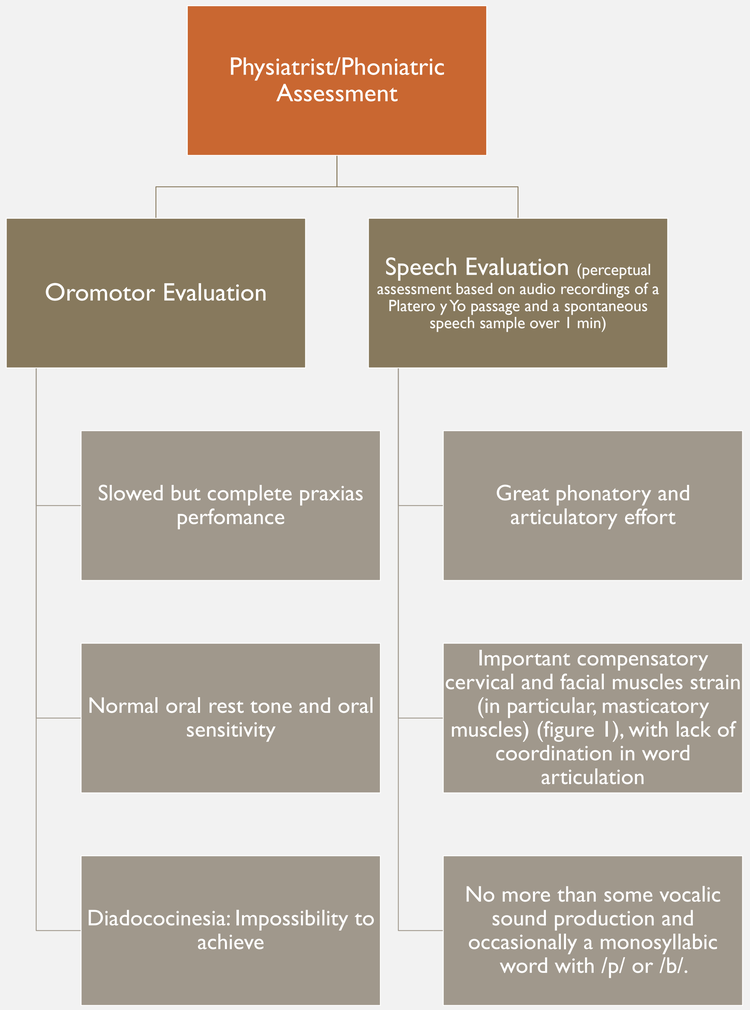


Figure 1. Image of phonatory and articulation effort during speech

Figure 2. Image of phonatory and articulation relaxation during speech after BT-USgi treatment.



DIAGNOSIS: Anarthria (severe unintelligibility speech) and complete lack of oral communication.

DISCUSSION

We describe a great and not previously published result, of USgi-BT in severe dysarthria secondary to MS. Great efforts in jaw movements due to chewing muscles hypertonia during speech, leaded us to hypothesize that their relaxation could improve patient word articulation, as demonstated by the results. The accurate identification and typing of tone abnormalities and its analysis, during speech, could provide important information that would improve our therapeutic planning in MS motor speech disorders.

CONCLUSION

USgi-BT could be a complementary option in motor speech disorder treatment secondary to hypertonia/spasticity in M.S., although it´s necessary to confirm its utility with larger trials.

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