Cognitive impairment in multiple sclerosis

Oral communications

CO096
Therapeutic benefit of botulinum toxin A for the spasticity of the triceps surae in patients with multiple sclerosis: An observational study
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Introduction
Few data are available on the use of botulinum toxin for spasticity treatment in multiple sclerosis. In a previous study, we found that one of the main therapeutic goals was the improvement of walking, in patients suffering from spasticity of the triceps surae.

Objective
This is a pilot observational study, with the aim to assess the benefit of an injection of 200 UI of incobotulinumtoxin A in multiple sclerosis patients suffering from spasticity of the triceps surae.

Material and methods
This study concern patients with multiple sclerosis with EDSS score lower than 6, needing botulinum toxin for focal spasticity of the triceps surae. The last injection, if the patient had previous botulinum treatment must be performed more than 3 months later. Outcome measure were goal attainment scale, MSWS-12 scale, TUG, and 6mn walk test (WT), before 6 weeks and 3 months after the injection. Treatment consists of 200 UI of incobotulinumtoxin A (xemin) injected in the triceps surae in 5 points according the anatomic technique, with a dilution of 100U in 3 mL. This study was approved by the local ethic comity of the University Hospital of Rennes (France).

Results
We present the result of 28 patients, with a mean age of 48.2 ± 12 years, and a mean EDSS of 4.2 (median 4.7). 6 weeks after the injection, we observed a significant improvement for the GAS, the MSWS-12 score (p = 0.015), and the TUG (p = 0.003). 6mn WT was improved but not significantly. At 3 months, neither TUG nor MSWS-12 were improved, however 6mn WT was significantly increased (0.0241) and 80% of the patient had reached their objective on the GAS.

Discussion/Conclusion
These results tend to confirm the interest of botulinum toxin A for the treatment of focal spasticity of the triceps surae with a significant improvement of gait and posture. Further studies are needed to confirm the place of botulinum toxin in this indication, but also the modalities of use in term of dosage and interval between injections. The best results are obtained after 6 weeks, with a decrease of the benefit at 3 months, even if at this time an improvement on endurance is observed. These results support the place of botulinum toxin in the focal spasticity of the triceps surae in MS and are in concordance with the French recommendations about focal spasticity treatment. Botulinum toxin should probably be discussed early in the management of spasticity in MS patients.

Keywords
Multiple sclerosis; Gait; Posture; Spasticity; Botulinum toxin

Disclosure of interest
The authors declare that they have no competing interest.

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CO097
Constipation prevalence in multiple sclerosis about a cohort of 81 patients
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Objective
Transit disorders are frequent in multiple sclerosis with an impact on the health related quality of life. However, just a few studies have been published on this subject. Moreover, these studies often concern patients with high EDSS. To get a more accurate view, we conducted an epidemiological study including all patients seen in PRM consultation over a given period.

Materials and methods
All MS patients having been seen in PRM consultation over a 4-month period were questioned about the existence of constipation, its consequences and its management.

Results
81 patients, 48 women, 33 men, and mean age 49.5 ± 12 years were seen in consultation. The average EDSS was 4.3 ± 2, (median 4). Disease duration was 14.5 ± 9 years (median 12). MS was relapsing in 56.7%, primitive progressive in 16% and secondary progressive in 27, 3%. 46 patients, 56.8% of the study population complained of constipation. In four cases, the constipation was...
associated with a fecal incontinence. NBD average score was 5 ± 4
(median 4), 8 patients had a score higher than 10. On a Likert scale, discomfort is considered moderate or severe to 41.3% and
constraint related to constipation moderate or severe for 40%. 61% of
patients report complications: abdominal bloating for 16 patients,
pain for 13 and hemorrhoid problems for 9. No statistical link was
found between the existence of constipation and age, sex, MS dura-
tion, MS type or EDSS. Constipation is a common symptom in MS
with a major impact in everyday for patients with MS.

Discussion/conclusion We found a prevalent consistent with lit-
erature data. In our sample, constipation is more common than
urinary problems. It does not seem to be associated with the devel-
oping profile of the disease. This implies an early screening for
appropriate care to minimize the clinical consequences of bowel

Keywords Multiple sclerosis; Constipation; Prevalence

Disclosure of interest The authors declare that they have no com-
peting interest.

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CO098
The functional performance status during weekdays and weekends in
persons with multiple sclerosis

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Objective Functional performance reflects what an individual
does in his/her daily life, providing a crucial dimension of the
environmental role on his/her function. The assessment of the
functional performance status of persons with multiple sclerosis
(PwMS) is a useful tool to optimize healthcare. This concept does
not seem to be extensively explored in this population [1,2]. This
study aimed to determine the level of activity of PwMS during
weekdays and weekends, and to establish associations between
clinical and functional parameters and this level of physical activity.

Materials/patients and methods 41 PwMS and 16 healthy persons
participated in this study. Their physical activity in real-life condi-
tion was assessed with an accelerometer ActiGraph (wGT3X) for 7
days. For the clinical and functional evaluations, the EDSS disabil-
ity scale, quality of life, fatigue, gait, six-minute walk test (6MWT)
and timed up and go test (TUG) were assessed. Groups were com-
pared in terms of accelerometry, using a student’s t test. In order to
verify the relationship between clinical and functional parameters
and the level of real-life activity, person’s correlation tests were
conducted.

Results The level of activity between PwMS for weekdays, week-

ends, Saturdays and Sundays was significant smaller compared with
the healthy group (p = [10.3–10.5], d = [0.95–1.76]). PwMS had a
constant level of activity throughout the week, whereas the
healthy group increased its level of activity on Saturdays (p = 0.04,
d = 0.69). The level of activity was correlated in descending order
with EDSS score, body mass index, and gait velocity at fast condi-
tion, 6MWT and TUG.

Discussion/conclusion This study showed that PwMS during the
week performed less activity than their healthy peers. They had a
stable level of activity throughout the week, contrary to healthy
persons. More information is required to determine if it involves
a patient’s coping mechanism (performance < the maximal capa-
city) or a limitation in performance (performance = to the maximal
capacity). It could be necessary to develop programs to facilitate
physical activity and participation during the weekdays, but espe-
cially during weekends.

Keywords Multiple sclerosis; Fampridine; information-processing speed; SDMT; Verbal fluencies; Fatigue

Disclosure of interest The authors declare that they have no com-
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CO099
“Gait responder” to fampridine, a too restrictive concept?

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Objective Fampridine is used as a symptomatic treatment in
patients with multiple sclerosis (PwMS) gait disorders. Some cli-
nical trials reported a positive effect on cognitive function especially
on information-processing speed (IPS) or on fatigue. The aim of our
clinical trial was to evaluate the effect of fampridine on IPS.

Materials/patients and methods 60 PwMS with an EDSS score
between 4 and 7 were included in a prospective monocentric open label trial. Two identical measures were conducted a week
apart before initiating treatment in order to take into account the
test–retest effect. Then, patients were treated for at least 14 days
and were evaluated twice (again a week apart). Two tests were
used to measure IPS: symbol digit modalities test (SDMT) and ver-
bal fluencies test (VFT). The gait was measured at fast condition and
the fatigue was evaluate using the modified fatigue impact scale
(EMIF-SEP). Patients were divided into two groups regarding to the
increase of gait speed after treatment: gait responders (GR) (more
than 17.2%) and non-gait responders-NGR (less than 17.2%). The
second group was also divided into two groups: those continuat-
ing treatment (on clinician appreciation) called others responders
(OR) and those who stopped treatment called no responders (NR).
For statistical analysis, a one-way analysis of variance for repeated
measurement was used. When significant effects existed, Turkey
post-hoc tests were performed.

Results Mean EDSS was 5.25 ± 1.07. 24% of PwMS were qualified as gait responder (mean speed improvement of 49.4%). Those who
improved their gait velocity were the most affected by the disease
(regarding to EDSS). Fatigue and IPS improvement was found in GR,
NGR and OR after treatment. It could be observed beyond 14 days
of treatment (SDMT in GR, GNR and OR and EMIF-SEP in GNR).
No improvement was shown in NR.

Discussion/conclusion Our results suggest that fampridine could
have an effect on cognition disorders and fatigue even on those who
are not gait responder.

Keywords Multiple sclerosis; Fampridine; information-processing speed; SDMT; Verbal fluencies; Fatigue

Disclosure of interest The authors declare that they have no com-
peting interest.

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