Treatment and CSYNC™ satisfaction with glatiramer acetate 20mg/ml once daily vs. glatiramer acetate 40mg/ml three times a week in RRMS patients: A patient survey

Deborah Maes[1], Virginie Mauro[2], Geert Van Gassen[1] and Danny Decoo[3]

1 Medical Department, Teva Pharma Belgium, Laarstraat 16, 2610 Wilrijk 2 MS Care Patient Support Program, Quintiles Belgium, Medialaan 32, 1800 Vilvoorde 3 Neurology Department, AZ Alma, Ringlaan 15, 9900 Eeklo

Aim

The aim of the patient survey was to compare treatment and CSYNC™ autoinjector satisfaction in RRMS patients being treated with glatiramer acetate (GA) 20mg/ml daily vs. GA 40mg/ml three times a week (tiw), using the CSYNC™ autoinjector.

Introduction

GA, Copaxone®, is a first-line disease-modifying therapy approved for reducing relapse frequency in patients with RRMS, originally as a 20mg/ml daily subcutaneous (sc) injection (TEVA Pharmaceuticals, 2009). The GALA study (Khan et al., 2013) demonstrated that, compared with placebo, treatment with GA 40mg/ml sc tiw was associated with a significant reduction in the total number of confirmed relapses in patients with RRMS over a 12-month period. The safety profile of GA 40mg/ml tiw was consistent with that of the 20mg/ml once daily dose. The authors reported that the incidence of injection site reactions (ISRs) in patients treated with GA 40mg/ml tiw was significantly reduced (20-50%) compared with previous published studies of patients treated with GA (20mg/ml and 40mg/ml) once daily (Comi et al., 2001; Comi et al., 2011; Johnson et al., 1995; TEVA Pharmaceuticals, 2009). This was confirmed in the GLACIER study (Wolinski et al., 2014), which showed a 50% reduction in the rate of injection related adverse events (IRAEs) and ISRs. This reduction was reflected in an increase of approximately 10 points from baseline in the TSQM-9 after 1 month in the GA 40mg/ml group.

TEVA Pharmaceuticals developed the CSYNC™, a new autoinjector in response to MS patient feedback. Compared with the Autoject™, the CSYNC™ offers a number of features for improved ergonomics, ease-of-use and accuracy.

It is possible that combining the GA 40mg/ml tiw regime with the CSYNC™ could improve the quality of life of RRMS patients.

Methods

Participants

Participants were RRMS patients taking part in the Belgian Copaxone Patient Support Program, using GA 20mg/ml once daily for at least four weeks and who wanted to switch to GA 40mg/ml tiw (Tables 1 and 2). Participants took part in the survey on a voluntary basis.

Questionnaires

The participants filled out the treatment satisfaction questionnaire for medication score (TSQM-9) and answered a question on satisfaction with the CSYNC™ autoinjector. The questionnaire and the question were given during treatment with GA 20mg/ml daily and when treated with GA 40mg/ml tiw. The TSQM-9 questionnaire is a patient reported outcome and measures the patient's perception on effectiveness, convenience and global satisfaction.

Statistical Analysis

The answers were scored on Likert scales with 5 or 7 data points, ranging for example from "Extremely dissatisfied" to "Extremely satisfied". For the statistical analysis, the answers were translated to numerical values, with a higher score indicating a higher satisfaction, convenience or confidence.

When analysing answers given on a Likert scale, the non-parametric Mann–Whitney U test (also called the Wilcoxon rank-sum test) should be applied. However, because of the relatively large sample size in this patient survey, the Z-test was applied.

For the questions where a statistically significant difference was found in the Z-test, an additional test was performed. The answers were divided in two categories ("Difficult" vs. "Easy" and "Inconvenient" vs. "Convenient") and a chi² test was applied.

Results

Table 1: Number of RRMS patients that filled out the questionnaires in each of the regimens

	GA 20 mg/ml daily	GA 40 mg/ml tiw
TSQM-9	N=196	N=185
CSYNC™ satisfaction	N=193	N=114

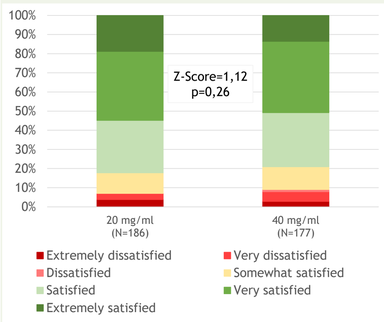
Table 2: Baseline characteristics of the RRMS patients taking part in the survey

Gender distribution	76,50% female
	23,50% male
Mean age (in years)	50,54
Mean number of months on glatiramer acetate	76,9

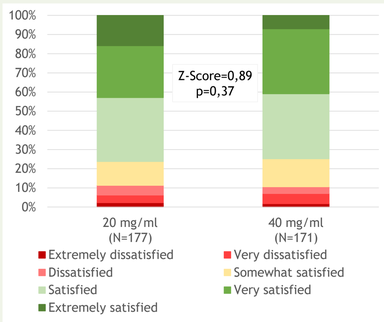
Results

TSQM-9: Effectiveness

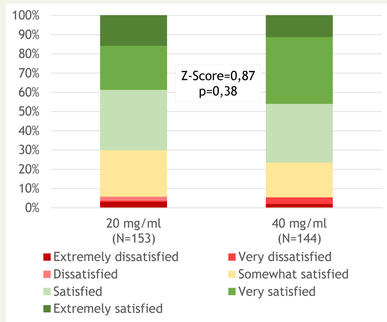
Q1: How satisfied or dissatisfied are you with the ability of the medication to prevent or treat your condition?



Q2: How satisfied or dissatisfied are you with the way the medication relieves your symptoms?

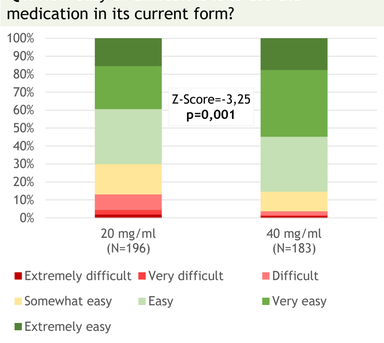


Q3: How satisfied or dissatisfied are you with the amount of time it takes the medication to start?

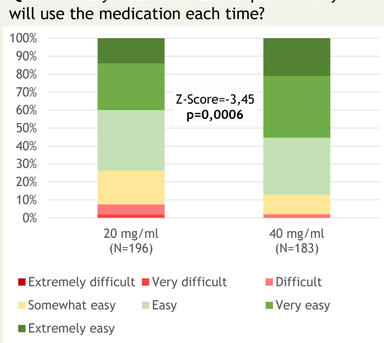


TSQM-9: Convenience

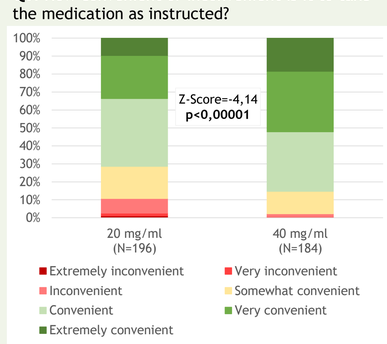
Q4: How easy or difficult is it to use the medication in its current form?



Q5: How easy or difficult is it to plan when you will use the medication each time?

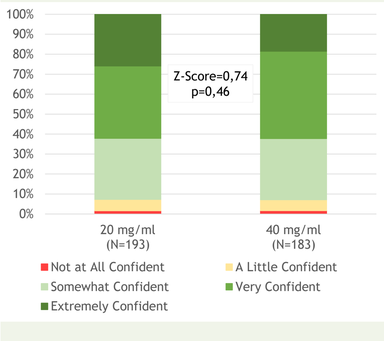


Q6: How convenient or inconvenient is it to take the medication as instructed?

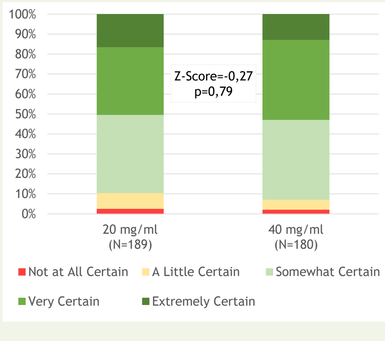


TSQM-9: Global satisfaction

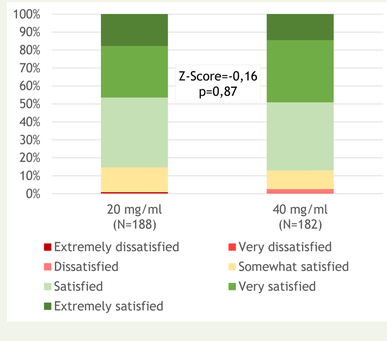
Q7: Overall, how confident are you that taking this medication is a good thing for you?



Q8: How certain are you that the good things about your medication outweigh the bad things?



Q9: Taking all things into account, how satisfied or dissatisfied are you with this medication?



CSYNC™ satisfaction questionnaire

How satisfied are you with injecting using the CSYNC™ autoinjector?

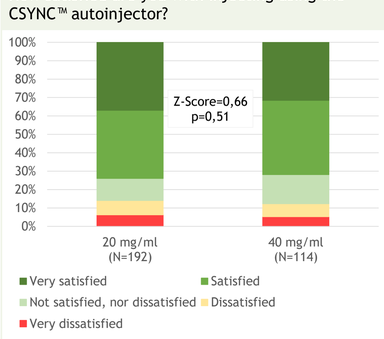


Table 3: Chi² tests TSQM-9 Convenience questions

	GA 20mg/ml daily		GA 40mg/ml tiw	
Q4: How easy or difficult is it to use the medication in its current form?	N	%	N	%
Difficult	26	13%	7	4%
Easy	170	87%	176	96%
	Chi²=10,61; p=0,001			
Q5: How easy or difficult is it to plan when you will use the medication each time?	N	%	N	%
Difficult	15	8%	4	2%
Easy	181	92%	179	98%
	Chi²=5,94; p=0,015			
Q6: How convenient or inconvenient is it to take the medication as instructed?	N	%	N	%
Inconvenient	21	11%	4	2%
Convenient	175	89%	180	98%
	Chi²=11,26; p=0,0008			

Discussion

- Results of the survey show an overall satisfaction with GA treatment for both formulations.
- Results of the survey show an effect of GA 40mg/ml tiw on the convenience questions of the TSQM-9 when compared to GA 20mg/ml daily.
- RRMS patients report taking GA 40mg/ml three times a week as easier to use in its current form, easier to plan when they will use the medication and more convenient to take as instructed, than taking GA 20mg/ml daily.
- Mean scores on the effectiveness and the global satisfaction questions of the TSQM-9 and mean scores on the question assessing patient satisfaction with the CSYNCTM autoinjector were not significantly different between the two treatment regimens.
- These results are in line with the results of the CONFIDENCE study (Veneziano et al., 2017) and the Dutch online survey patient reported outcomes MS (Zuurbier et al., 2016).

This patient survey was initiated and funded by Teva Pharma Belgium.

Literature

- Comi G, Filippi M, Wolinsky JS. European/Canadian multicenter, double-blind, randomized, placebo-controlled study of the effects of glatiramer acetate on magnetic resonance imaging-measured disease activity and burden in patients with relapsing multiple sclerosis. European/Canadian Glatiramer Acetate Study Group. Annals of Neurology 2001;49:290–297.
- Comi G, Cohen JA, Arnold DL, et al. Phase III dose-comparison study of glatiramer acetate for multiple sclerosis. Annals of Neurology 2011;69:75–82.
- Johnson KP, Brooks BR, Cohen JA, et al. Copolymer 1 reduces relapse rate and improves disability in relapsing-remitting multiple sclerosis: results of a phase III multicenter, double-blind placebo- controlled trial. The Copolymer 1 Multiple Sclerosis Study Group. Neurology 1995;45:1268–1276.
- Kahn O, Rieckmann P, Boyko A, et al. Three Times Weekly Glatiramer Acetate in Relapsing-Remitting Multiple Sclerosis. Annals of Neurology 2013;73:705-713.
- TEVA Pharmaceuticals USA. Copaxone (glatiramer acetate) prescribing information. February 2009. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/label/2009/020622s057lbl.pdf. Accessed August 8, 2017.
- Veneziano A, Cutter G, Al-Banna M, et al. Higher Medication Satisfaction and Treatment Adherence in Relapsing-Remitting Multiple Sclerosis Patients Treated With Glatiramer Acetate 40 mg/mL Three-Times Weekly Compared With 20 mg/mL Daily: 6-Month Results of the CONFIDENCE Study. Poster presented at 7th Joint ECTRIMS-ACTRIMS Meeting, Paris, France, Oct 25-28, 2017.
- Wolinsky JS, Borresen TE, Dietrich DW, et al. GLACIER: An open-label, randomized, multicenter study to assess the safety and tolerability of glatiramer acetate 40 mg three-times weekly versus 20 mg daily in patients with relapsing-remitting multiple sclerosis. Multiple Sclerosis and Related Disorders 2015;4:370–376.
- Zuurbier K, Reijs-Scheijgrond M, Visser LH. Dutch online survey patient reported outcomes (PROs) in MS: Improvement medication adherence after switch of daily glatiramer acetate 20mg/ml to 3x per week 40mg/ml. Poster presented at 2nd Congress of the European Academy of Neurology, Copenhagen, Denmark, May 28-31, 2016.