

Onabotulinum Toxin Serves as an Effective Treatment for Chronic Daily Headache in Patients with Hypermobility Syndromes

Kelsey Riggs, Lauren Babcock, Vernon Rowe, John Hunter, Arlene O'Shea, Dorsey Paul, Doug Schell, James Barnett

Introduction

Hypermobility syndromes (Hypermobility Spectrum Disorder, Hypermobility Syndrome, Ehlers-Danlos Syndrome Hypermobile type) are a group of connective tissue disorders characterized by joint laxity. Due to the nature of our patient population, our headache clinic has an unusually high occurrence of patients with this disorder. These patients have been found to experience a high prevalence of Chronic Headache Disorder. We previously found that the higher than normal incidence of headache is caused by unstable cervical intervertebral joints leading to the translocation of cervical vertebrae on flexion and extension. Onabotulinum Toxin A (Botox, Allergan) is an effective prophylactic treatment for Chronic Headache Disorder. Patients with Hypermobility Syndromes have a high failure rate of standard prophylactic therapy, while Botox has been indicated to work well. These patients also experience a plethora of symptoms including dysautonomia, sleep disordered breathing, and joint pain.

Methods

Charts of 475 patients with Hypermobility Syndromes (M35.7) retrospectively reviewed. Of those 475 patients, fifty-four (54) used Botox as a prophylactic medication to treat Chronic Headache Disorder for at least three treatments. Patients were asked to self-report the number of headache days before treatment as well as after receiving their most recent treatment. They were also asked to report headache severity on a scale of 1-10. The average decrease in headache frequency as well as severity was then calculated and statistical significance was determined.

Results

- 1. The average severity of headache decreased by 11.6% (p<0.005) when they occurred with Botox treatments.
- 2.The average number of headache days per month decreased by 72% (p<0.0001). The data range was 7-30 days, with one outlier of 0 or no change in headache days.

	Female	Male	Total
N	52	2	54
Average Age	42 (±10.8)	43(±3.5)	42 (±10.7)
BMI	$28.0(\pm 6.1)$	$30.8(\pm 3.5)$	28.1(±6.1)

Figure 1: Table expressing demographic data

	Headache Severity	Headache Days per Month
Mean Difference	0.880	17.5
Standard Deviation	± 0.217	± 5.67
T value	2.94	19.0
P value	0.005	< 0.0001
95% CI	0.279-1.481	15.9-19.4

Figure 2: Table expressing change in headache severity and frequency

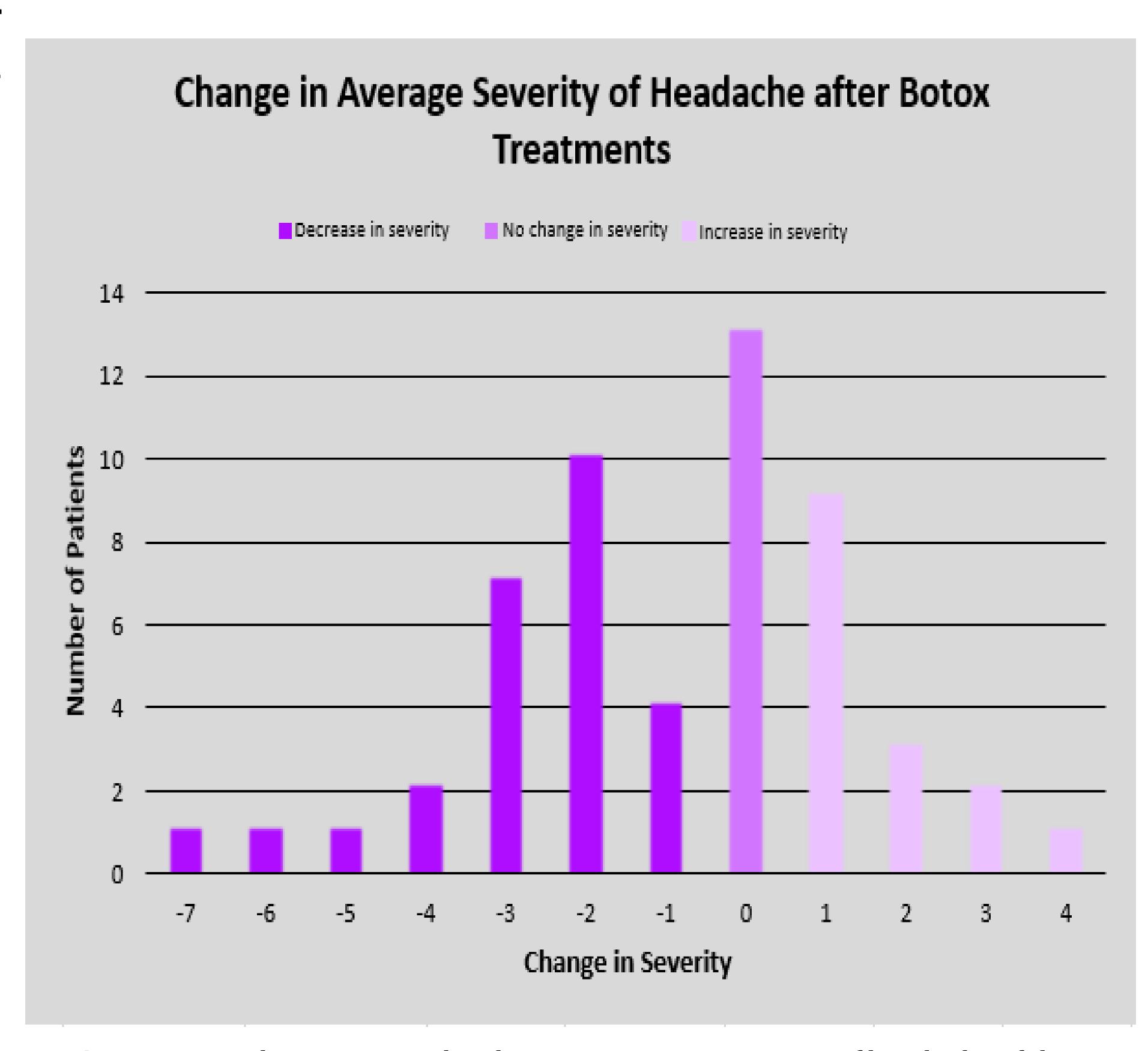


Figure 3: Graph expressing the change in average severity of headaches following Botox treatment

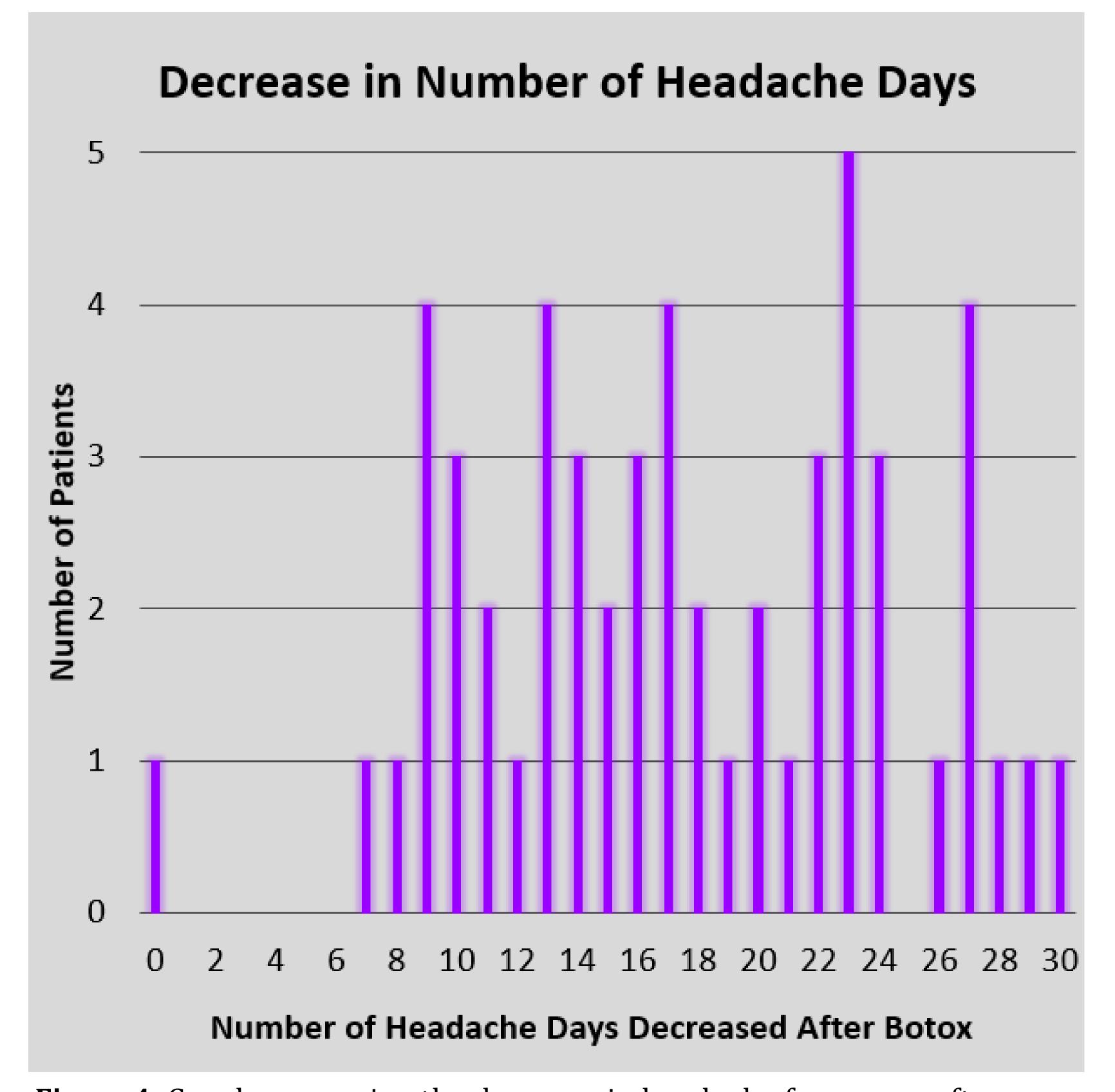


Figure 4: Graph expressing the decrease in headache frequency after treatment

Discussion

The increased prevalence of headache in patients with Hypermobility Syndromes population has been previously reported. In our experience with these patients, standard prophylactic treatments are not successful. This lack of success is likely due to the complex cause of headaches in patients.

Botox, on the other hand, has been an effective treatment for headache in these complex patients

It is possible that the large decrease in average number of headache days influenced the average severity of headache perceived, in some cases. If headaches are occurring less often, then the presence of headache can be perceived as more intense.

It should be noted that Hypermobility Syndromes, well as Chronic Headache Disorder are both much more prevalent in females than males. This characteristic was also seen in our study.

Conclusions

- 1.Botox is an effective headache treatment for patients with Hypermobility Syndromes.
- 2. Botox significantly decreases both the severity and number of headache days for patients within this population.
- 3. Since most insurances have strict guidelines for approving the use of Botox, a lower threshold for Botox use, in these patients, may lead to a more rapidly improved quality of life.
- 4. Hypermobility Syndromes should be considered as a comorbid condition in patients with Chronic Daily Headache.