



Background

Some patients experience a flu-like syndrome following botulinum toxin (BoNT) injections. These symptoms suggest an immunological response to the injections, even though the clinical outcome from treatment remains good. These observations, together with evidence that BoNT itself has low immunogenic potential, suggest that the immunological response in some cases may be a reaction to accompanying ingredients.

Objective

The purpose of this study was to determine whether switching to a different BoNT product, which contains different types or amounts of accompanying ingredients, reduces the development of flu-like symptoms among cases where they occur.

Methods

The study was conducted with 5 subjects who complained of severe flu-like reactions following BoNT injections for dystonia. We methodically collected details of the treatment associated with the flu-like symptoms, before and after switching to an alternative brand. The injector otherwise made minimal changes to the dose and pattern of injections.

Results

All 5 subjects who reported flu-like symptoms experienced either a reduction or elimination of these symptoms after switching from the first product to a second product. All 5 subjects reported maintenance of clinical benefits. The clinical benefits and lessening of flu-like symptoms were maintained for at least 3 injection cycles with the second brand, making chance occurrence unlikely.

Figure 1. Overview of Cases

Subject	1	2	3	4	5
Age	50	52	62	59	66
Sex	F	M	F	F	F
Diagnosis	Cervical Dystonia	Blepharospasm	Hemidystonia	Spasmodic Dysphonia, Cervical Dystonia, Blepharospasm	Cervical Dystonia
Flu present at time of injection?	No	No	No	No	No
Nature of syndrome	Myalgias, joint aches, fatigue	General malaise, myalgias, and headache	Flushing, myalgias, nausea, emesis	Diffuse malaise and myalgias	General malaise, myalgias, headaches
Duration of flu-like syndrome	3 weeks	2-3 days	8 hours	2-3 days	2 weeks
Did syndrome occur after brand switch?	No	No	No	No	No
1 st brand injections accompanied by flu	At least 6 prior treatments	At least 3 prior treatment	At least 2 prior treatments	At least 2 prior treatments	At least 1 prior treatment
2 nd brand injection cycles without flu	10	5	8	18	17

Conclusion

These results suggest that patients who complain of severe flu-like symptoms following BoNT injections may be managed by switching products. However, further studies of a larger group of patients would be helpful in determining the generalizability of this management strategy.