BACKGROUND

- Dystonia encompasses a broad range of movements defined as sustained, patterned involuntary muscle contractions causing twisting and abnormal posture.
- Individuals with dystonia often adopt a variety of alleviating maneuvers (AM), otherwise known as the sensory trick or geste antagoniste.
- This AM has traditionally been used to describe a light touch to an area of the body which improves the abnormal posture.
- There are few studies describing the phenomenology of AM primarily in cervical dystonia (CD) and blepharospasm.
- However, these studies were performed in a single center describing a small number of patients.

OBJECTIVES

- To determine the demographic and clinical differences between patients with and without AM in a large multicenter cohort of patients with cervical dystonia (CD) enrolled in the Dystonia Coalition registry.

METHODS

- This is an institutional review board approved retrospective study.
- We analyzed the data collected from 164 cervical dystonia patients enrolled in 9 sites in the Project 2 arm of the Dystonia Coalition project (http://clinicaltrials.gov/show/NCT01373424) by November 2012.
- CD with effective AM, defined as partial or complete improvement of the abnormal posture, were compared to CD patients without effective AM on demographic and neurologic features and psychiatric diagnoses.
- Details regarding localization and phenomenology of effective ST and degree of improvement were collected initial data collection:
  - Demographic variables
  - Global Dystonia Rating Scale (GDRS)
  - Toronto Western Spasmodic Torticollis Rating Scale (TWSTRS)
- Systematic review of standardized video examinations for descriptive details of AM:
  - Site and characteristics of AM
  - Degree effectiveness
- Analyses used t-test or exact Pearson chi-square tests (for nominal data).

RESULTS

- Figure 1: Inclusion Criteria
- Table 1: Demographics and Symptom Severity
- Table 2: Locations and Characteristics of AM

DISCUSSION

- To our knowledge this is the largest cohort of patients describing the characteristics of AMs that were systematically determined through clinical examination.
- Limitations to this study include:
  - Retrospective nature of data review
  - Variability in videotaped demonstrations of AM between centers.
  - The presence of improvement with “forceful touch” demonstrates that the AM benefits may also be present with motor input.
  - Our findings are similar to others in that the benefits of AM may be earlier in the course of the disease.
- Abnormalities in proprioceptive, spatial and temporal sensory discrimination have been identified.
- In patients with CD a two-phase model in which abnormal head posture is first normalized by counter pressure or volitional antagonistic muscle activity after which the position is stabilized by sensory input.
- The presence of the AM supports emerging theories that dystonia is a disorder of sensorimotor integration.

CONCLUSION

- This is the largest cohort of patients in whom the characteristics of AMs were systematically determined through standardized clinical evaluations and videos.
- We propose that “alleviating maneuver” is a more appropriate term for the phenomenon that was previously referred to as the “sensory trick”.
- Future studies should directed towards:
  - Further clarification of the pathophysiological mechanism of the AM
  - Therapeutic strategies that utilize the benefits of the AM

REFERENCES