

Response to Imploding versus Exploding Pain in Pediatric Migraine

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BACKGROUND

- Studies demonstrate that the character of pain may determine whether a patient is responsive to preventative treatment of migraine.
- Patients who described their direction of pain as “inward” were more likely to respond to alternative prophylactic treatment using local intramuscular injections of Botulinum Toxin Type A, whereas, those who described “outward” pain were more likely to be non-responders.
- Those who did not respond may have more of a central mechanism with less involvement of the periphery.
- Headache is a common complaint in children, however, no studies exist determining whether children are able to characterize their headache based on the direction of pain and if this would have a similar impact on response, as seen in adults.

OBJECTIVE

- To examine whether children and adolescents are able to describe the direction of their headache pain placing them in the category of imploders (“in”) versus exploders (“out”), and to determine whether there is a relationship to their response to preventative treatment.

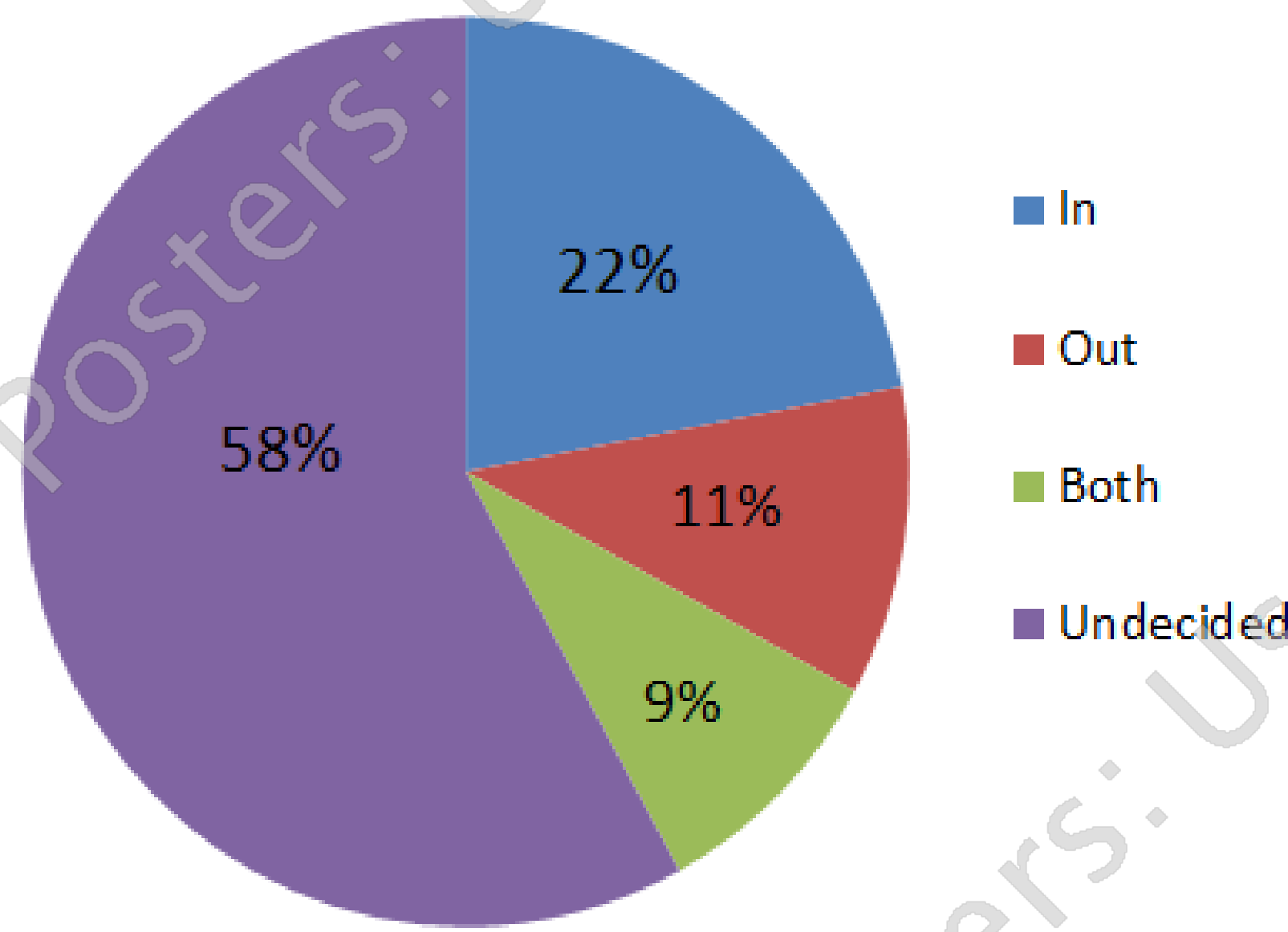
METHOD

- Prospective data on children ages 2-18 years referred to a tertiary pediatric headache center were reviewed.
- Standardized forms and semi-structured interview was used to collect information on headache characteristics, including headache frequency at initial and follow-up visits.
- Patients were asked to mark whether they would describe their pain with the following features:
 - Imploding - “in”
 - Exploding - “out”
 - Imploding AND exploding - “both”
 - Undecided - “?”

RESULTS

- 520 patients were analyzed
- During their initial follow-up, 58% of patients were unable to give a directionality to their pain (n=301).
- Of those that were able to report a direction, inward (22%) was more common than outward (11%), with 9 percent of patients reporting both inward and outward.

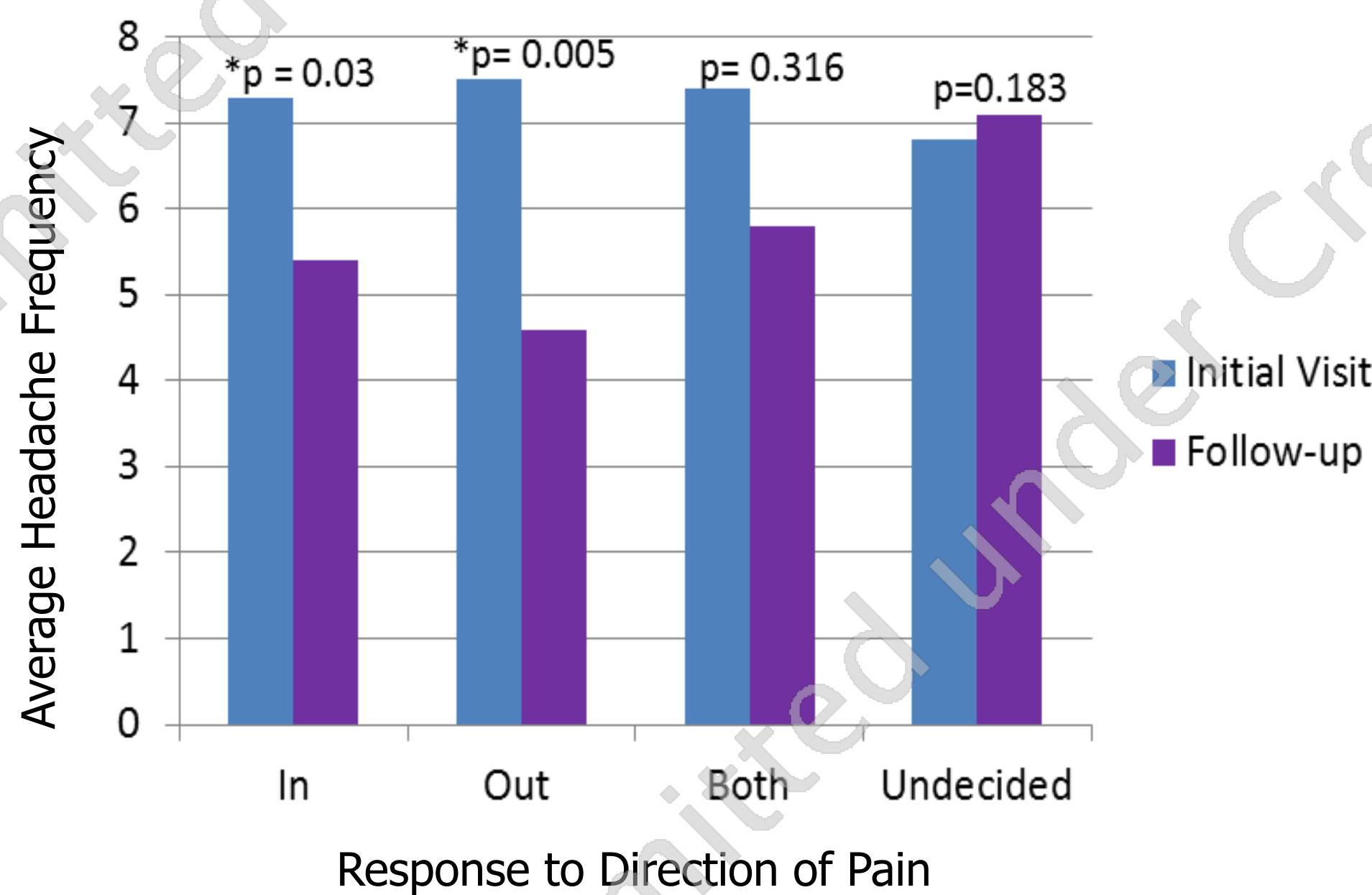
Category of Responses



The majority of patients were unable to determine the direction of their head pain.

- At follow-up, among those with episodic headaches (≤ 14 headaches per month), there was a significant decrease in headache frequency among those with inward or outward pain from 7.3 to 5.4 ($p=0.03$) and 7.5 to 4.6 ($p=0.005$), respectively.
- There was no difference in those unable to categorize direction ($p=0.32$) or for describing both inward and outward pain ($p=0.18$).
- Among those with chronic headaches (>15 headaches/month), all groups showed significant improvement ($p<0.001$), but there was no difference between groups.

Headache Frequency Related Direction of Pain



Those who were able to provide directionality of either inward or outward had fewer headache days. *Denotes significant difference

CONCLUSION

- Most pediatric patients with headaches are unable to describe their pain directionality.
- Patients with episodic headaches have a greater response to preventative medication if they are able to characterize their pain as either inward or outward.
- There is no difference in response to treatment in patients with chronic migraine, regardless of ability to characterize pain.
- More studies are needed to determine whether a clinical phenotype predicting response to preventative therapy can be determined for pediatric migraine.

Questions or comments contact:

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