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CORRESPONDENCE

Author's Response

We would like to respond to Dr. Granet's comments on our review of the Convergence Insufficiency Treatment Trial (CITT) Investigator Group's three randomized clinical trials[1–3] in which we discussed guidelines for evidence-based treatment of convergence insufficiency (CI), clinical implications, remaining unanswered questions, and directions for future research. We are perplexed that one of Dr. Granet's main points is that the CITT studies do not answer a "plethora of issues," including epidemiologic questions such as determining the incidence of symptomatic CI. Although we agree that there are questions regarding CI that remain unanswered, an elemental principle of a well-designed randomized clinical trial is having a focused question and not attempting to answer too many research questions.[4,5] The specific aim of our trials was to evaluate the effectiveness of commonly prescribed treatments for CI.

Dr. Granet notes that the Convergence Insufficiency Symptom Survey (CISS) has not been tested in poor readers and that poor reading ability could account for symptoms. Although this may be true, the CISS has been validated and shown in two separate studies to differentiate between children with normal binocular vision and symptomatic CI.[6,7] These validation studies enrolled patients in both groups based solely on the patients' binocular vision status and without respect to reading ability. Furthermore, the CITT studies were randomized with all children (including any who may have been poor readers) being assigned with equal probability to each of the treatment groups. Nevertheless, the CITT Group is investigating the relationship between CI and reading because many clinicians feel that symptomatic CI may have a deleterious effect on reading performance.

Dr. Granet suggests that the in-office placebo group should have performed real vergence accommodative therapy at home. This design, however, would not have met the definition of "placebo," that is, an imitation of a specific treatment but "with the absence of the specific therapeutic constituents."[8] Moreover, with such an approach, it is unclear how we would have accomplished in-office visits in which the child performed placebo therapy and was also taught real therapy to be performed at home without unmasking the patient to the placebo component.

Dr. Granet notes that the total treatment time prescribed for the different treatments was not equal. Indeed, this is true and was intentional. As stated previously,[3,9] the objective of the CITT was to compare the effectiveness of three commonly prescribed treatments as used in clinical practice, i.e., home-based treatments requiring less of a time commitment on the patient's part were compared with a more time-intensive office-based treatment. Although it is possible that using more home-based therapy procedures or prescribing more than 15 to 20 minutes of daily home-based therapy may have produced different results, these questions will have to await further study. It is noteworthy, however, that the pencil push-ups group in this study had considerably closer follow-up than is typical in clinical practice; thus, it is likely that this treatment would have been less effective if prescribed according to usual clinical practice, which does not include weekly telephone calls from a therapist and often has less frequent follow-up.[1,3]

Dr. Granet comments on the importance of compliance with therapy and that working with a therapist may have a positive effect on compliance. It was for this reason that all patients in the CITT had weekly contact with a therapist who answered questions and encouraged compliance. There were slight differences in adherence among the groups in the CITT; however, accounting for these differences in estimated adherence did not affect the results of the treatment group comparisons for the CISS, near point of convergence, or positive fusional vergence.[3]

Although our previous studies were not designed to conduct a cost-utility analysis, we plan to explore this in future research. We think that it is important to educate parents regarding the success rates and advantages and disadvantages for all available treatments. Thus far, the evidence-based research on CI has shown that home-based therapy and base-in prism reading glasses are significantly less effective than office-based vergence/accommodative therapy. Some have suggested that one can prescribe one of the less effective home-based treatments initially followed by subsequent office-based therapy when home-based therapy is ineffective. Although this may be the only option for some families, some may not want to spend time and money on a treatment which has been shown to be significantly less effective, particularly if their school-age child is experiencing symptoms related to reading and near work.

The CITT Investigator Group remains committed to the process of continuing to develop and implement quality research, in a focused, sequential manner to answer many of the clinically relevant questions regarding CI that will lead to better care for children with this condition.

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