Author’s response to reviews

Title: Detection of Drug Effects on Gastric Emptying and Contractility Using a Wireless Motility Capsule

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In response to the reviewers’ comments we have made the following revisions in the manuscript:

1. The manuscript was reviewed by Dr. Wilding, a PhD biostatistician who is an author of the paper and who performed the statistical analyses. He has re-written and clarified the statistical methods used in the paper.

2. The manuscript now contains statements that the subjects and researchers who conducted the GET and motility analyses were not aware the infusion received on a given test day.

3. We agree that age could alter responses to medications, but too few subjects were studied in this proof of principle study in normal subjects to obtain meaningful data regarding age effects.

4. We have added a discussion of the situation where the capsule did not leave the stomach before the liquid meal was given at 6 hours to the Results section. We do not agree that it is proper to simply eliminate those tests. The order of GETs under the 3 test infusion conditions could still be ascertained in each subject, and differences were analyzed using a two-sided exact sign test. Thus, the used of censored data (>6 hours GED) does somewhat affect the calculated mean GET in each experimental situation, but does not prevent meaningful comparison of the 3 different infusions. We have emphasized this point in the Statistical Methods and Results sections. The observation that the capsule is sometimes retained in the stomach for more than 6 hrs. in healthy controls is presented in the Discussion as a limitation of this technology.
5. The spelling error on page 7 was corrected.

6. As stated in the manuscript, the doses of drugs selected were those expected to produce modest effects on gastric emptying time that would be most relevant to drug development.

7. Unfortunately, limited data are available on inter-individual differences in gastric emptying of capsules in healthy subjects.

We thank the reviewers for their helpful comments, and hope that the revised manuscript is now acceptable for publication.