

Response Letter:

Major comments: 1) (Results and Figure 2) Are there differences between patients with OP pH+ and pH-in clinical manifestations? I deem that this will be a clinically very important point. Please analyze the differences and add the result as a figure or table.

There are no significant differences in clinical manifestations between patients with OP pH+ and pH-. We have added this in the Results section and modified Figure 2. In our opinion this is not surprising, partly because we enrolled patients with extra-esophageal symptoms which are not -specific for GERD because of their multifactorial etiology.

2) (Statistical analysis) Did the authors calculate the sample size of patients? If not, the authors should justify no sample size calculation.

The current literature gives no data about comparisons of high- resolution manometry and oropharyngeal pH-metry; therefore it was not possible to estimate a likely difference between the two groups of patients so as to calculate the most appropriate sample size. However, we calculated the beta error for the statistically significant comparisons, which range from 54.8 to 100.

3) (Figures) The authors should show the HRM photos of typical findings of PCI in the patients with OP pH+ and OP pH- to demonstrate the most important results and make readers' understanding easier.

We have modified Figure 1 as suggested, and it now shows two PCI in patients with OP pH+ and OP pH-.

Minor comment:

1) (Tables) According to the authors' guide line, P-values should be all provided in the tables regardless of a significant difference.

Point 2.26 of the Guidelines and Requirements for Manuscript Revision-Prospective Study, Notes in illustrations and tables, states that "Data that are not statistically significant should not be noted". Obviously, however, if you prefer, we can modify the tables.