

Answers to “The esophageal acid exposure still plays a major role in patients with NERD” by Dr. Savarino

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Dear editor,

We are very pleased and appreciate to Dr. Savarino's great interest in our paper published on *Journal of Gastroenterology* [1]. We studied the comments carefully and answered as follows:

Concerning about the sub-grouping of non-erosive reflux disease (NERD) patients, we did take into account of the esophageal acid exposure time (AET) data. In our article, we showed the scatter plot of AET and baseline impedance regarding all subjects, and we came up with the conclusion that baseline impedance is negatively correlated with AET. On the other hand, reflux episodes have normal reference values for each type of reflux event, which can be easily used to group NERD patients [2], while AET only focuses on acid reflux severity and is less powerful to differentiate other types of reflux. Based on our data, different reflux episodes may also represent different severities of acid exposure (or AET). Furthermore, to specify how episodes represent acid exposure, we find that in our NERD subgroups, mean AET increases across the spectrum of mild to severe acid reflux episodes (weakly alkaline reflux group: 0.5 %; weakly acidic reflux group: 3 %; mixed reflux group: 7 %; and acid reflux group: 16 %). Additionally, the percentage of patients with positive AET in each subgroup also increases across the spectrum. Besides, in our NERD patients, acid reflux episodes show a positive correlation with AET ($r = 0.63$, $p < 0.001$).

Taken together, we believe the way that using reflux episodes to divide NERD subgroups is able to differentiate the extent of acid, weakly acid and weakly alkaline compared with just considering AET.

As described on the paper, most of the enrolled GERD were first-visit patients. For those patients who had received PPI therapy, we required one week off the medication. We assume that high number of patients with abnormal weakly acidic reflux events might be the feature of NERD population.

Finally, transmission electron microscopy (TEM) is still considered as the golden standard for DIS diagnosis now. We have had read some publications on this issue and are very glad to learn that updated research as a support for the light microscopy (LM) measurement method.

Best Regards,
Yours sincerely,
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References

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