J Neurogastroenterol Motil, Vol. 26 No. 3 July, 2020
pISSN: 2093-0879 eISSN: 2093-0887
https://doi.org/10.5056/jnm20047
Journal of Neurogastroenterology and Motility

Letter to the Editor

Can We Apply the Salivary Pepsin Test for Patients With Gastroesophageal Reflux Disease in Primary Practice?

TO THE EDITOR: I read the original article by Wang et al[1] regarding salivary pepsin as an intrinsic marker for diagnosis of gastroesophageal reflux disease (GERD). The study showed that salivary pepsin concentration was higher in erosive esophagitis, nonerosive reflux disease (NERD), and extraesophageal symptoms compared than healthy controls.[1] No significant difference was found in the positive rate for pepsin in patients with functional heartburn or GERD with anxiety and depression (GERD-AD) compared to healthy controls.[1] Proton pump inhibitors reduced salivary pepsin concentration in patients with NERD and extra-esophageal symptoms.[1]

Their application of salivary pepsin to patients with GERD and GERD related diseases increase our understanding of its diagnostic role. However, I have several concerns about this study. The definition of GERD-AD should be clarified, although they diagnosed GERD-AD using the Hamilton Anxiety and Depression Rating Scale and typical symptoms. That is because the presence of typical symptoms does not always imply true GERD. In other words, GERD-AD might be further classified into functional heartburn and esophageal motility disorders if they performed both manometry and 24-hour esophageal pH tests. Therefore, this possibility might make the salivary pepsin test to have weak discrimination between healthy controls and patients with GERD-AD. In addition, the Figure in Wang's study raised the question regarding the utility of salivary pepsin as a marker of GERD because of the considerable overlap in the distribution among healthy controls and patients with GERD and GERD related diseases.[1] I suggest the authors clarify the diagnostic sensitivity and specificity of salivary pepsin concentration for diagnosing GERD. A recent meta-analysis reported that salivary pepsin has moderate diagnostic value for GERD; the pooled sensitivity and specificity were 60% and 71%, respectively.[2] The methodology regarding salivary pepsin measurement is the most important part because it provides information that allows me to judge the validity of the results and conclusions of the study reported. They collected salivary samples from their patients at the onset of symptoms, 15 minutes after the onset or 1 hour after

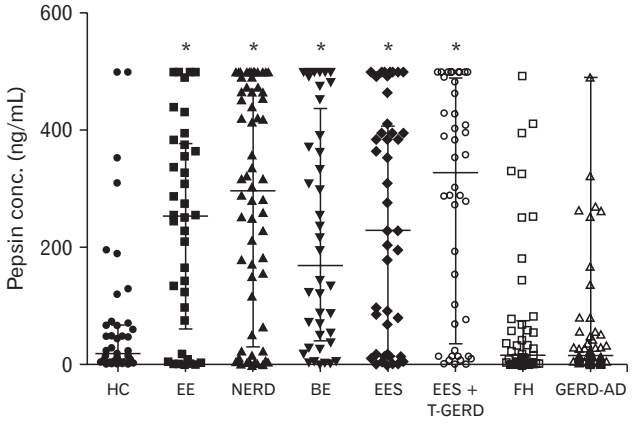

Figure. Scatter plot of distribution, medians and interquartile ranges (IQR; Q25, Q75) of pepsin in saliva in patients with subtypes of gastroesophageal reflux disease (GERD) and GERD-related disorders. A long horizontal line represents median, 2 short horizontal lines represents IQR in scatter plot, respectively. Compared with healthy control group, $*P < 0.001$. EE, erosive esophagitis; NERD, non-erosive reflux disease; BE, Barrett's esophagus; EES, extra-esophageal symptoms; EES + T-GERD, EES and typical GERD symptoms; FH, functional heartburn; GERD-AD, GERD symptoms with anxiety and depression.

dinner. Inconsistent sampling timing among patients enrolled in this study may call for potential selection bias with data interpretation. In conclusion, it is unclear whether I can apply the results of the study to my patients.

Tae Hee Lee
Institute for Digestive Research, Digestive Disease Center, Soonchunhyang University Seoul Hospital, Seoul, Korea

1. Wang YJ, Lang XQ, Wu D, et al. Salivary pepsin as an intrinsic marker for diagnosis of sub-types of gastroesophageal reflux disease and gastroesophageal reflux disease-related disorders. J Neurogastroenterol Motil 2020;26:74-84.
2. Guo Z, Wu H, Jiang J, Zhang C. Pepsin in saliva as a diagnostic Marker for gastroesophageal reflux disease: a meta-analysis. Med Sci Monit 2018;24:9509-9516.

Financial support: This work was supported by the Soonchunhyang University Research Fund.
Conflicts of interest: None.