Effects of Abdominal Visceral Fat Change on Regression of Erosive Esophagitis

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See "Effect of Abdominal Visceral Fat Change on the Regression of Erosive Esophagitis: A Prospective Cohort Study" by Su Youn Nam, et al. on page 25, Vol. 13. No. 1, 2019

Previous studies have shown the association between obesity and gastroesophageal reflux disease (GERD),¹⁻³ and revealed that abdominal visceral fat can affect a lot on aggravating the GERD based on various theoretical backgrounds.^{2,4,5} In recent studies, abdominal visceral fat volume measured by cross-sectional computed tomography (CT) was a better predictor of erosive esophagitis than body mass index or waist circumference in both men and women.^{2,6}

An increase in abdominal adipose tissue can increase intra-abdominal pressure, increased gastric pressure, lower esophageal sphincter relaxation, formation of hiatal hernia, and subsequent esophageal acid reflux.⁷ In addition, serum levels of several inflammatory cytokines such as interleukin-6 and tumor necrosis factor- α , which are overexpressed in patients with erosive esophagitis can be elevated by an increase of visceral fat volume.⁸ Until now, most of studies have been performed to reveal the aggravating factors of esophagitis, therefore, there are less data about the effect of visceral fat change on the regression of erosive esophagitis. This research⁹ maybe the first topic which tried to know about the effects between visceral fat change and the regression of esophagitis.

In this issue of *Gut and Liver*, Nam *et al.*⁹ prospectively followed 163 reflux esophagitis patients who had performed esophagogastroduodenoscopy between February 2010 and November 2010. The patients were endoscopically diagnosed as erosive esophagitis at baseline and performed follow-up multidetector CT from May 2010 to August 2013. The longitudinal change of abdominal visceral fat and erosive esophagitis were evaluated in all patients.

Among total enrolled patients, the regression of erosive

esophagitis rate was 49.1% and resulted as a decrease of regression in higher visceral fat group with 3rd and 4th quartile at follow-up. Especially, the highest quartile of visceral fat change reduced the probability of the regression of erosive esophagitis compared to the lowest quartile (relative risk, 0.10; 95% confidential interval, 0.03 to 0.28; $p < 0.001$).

In this study, authors showed that higher visceral fat at follow-up and greater increase of visceral fat during follow-up period reduced the rate of regression in erosive esophagitis patients regardless of baseline visceral fat volume. Based on this research, there are further considerations. First, using this well designed setting, study to know the change of inflammatory cytokines and lipid profiles which have been revealed as associated factors for visceral fat,^{8,10} according to the change of visceral fat volume, can be considered. This kind of studies can help to solve the problem such as high cost and radiation exposure which should be considered during using CT follow-up. Second, similar with first opinion, newly designed methods for estimating visceral fat volume instead of CT can be thought. If the results of this study are more clearly demonstrated in additional studies, simpler and safer methods to know the change of visceral fat volume will be need in patients with esophagitis. Third, treatment plan and follow-up methods in patients with erosive esophagitis can be modified that clinicians can emphasize more about weight control and life style change.

This study, which was performed on the foundation of their good previous researches, has important clinical meaning because authors found that the visceral fat change during follow-up period can affect the regression of erosive esophagitis. Based on these results, further studies to clearly demonstrate the action

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pISSN 1976-2283 eISSN 2005-1212 <https://doi.org/10.5009/gnl18299>

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mechanism are expected to clinically help reducing esophagitis.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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