学 位 論 文 の 要 旨

氏名　　福田　直樹

学 位 論 文 名　Mucosal Breaks Show Same Circumferential Distribution in Majority of Patients With Recurrent Reflux Esophagitis

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著 者 名　Naoki Fukuda, Norihisa Ishimura, Mayumi Okada, Daisuke Izumi, Hironobu Mikami, Eiko Okimoto, Masahito Aimi, Tsuyoshi Mishiro, Naoki Oshima, Shunji Ishihara, Yoshikazu Kinoshita

論 文 内 容 の 要 旨

INTRODUCTION

Patients with reflux esophagitis (RE) develop esophageal erosions and ulcers called mucosal breaks primarily on top of the esophageal mucosal folds located in the area of the distal esophagus. RE can be divided into 2 types; low-grade [grades A and B in the Los Angeles (LA) classification] and high-grade (grades C and D), based on the form of the mucosal break. Previously, we focused on the circumferential distribution of esophageal mucosal breaks in patients with various grades of RE and found a unique asymmetrical circumferential distribution. In that study, esophageal mucosal breaks in low-grade esophagitis (LA grade A and B) cases were mainly found on the right anterior wall of the distal esophagus. In contrast, those in cases of high-grade esophagitis (LA grade C) were mainly found on the posterior wall of the esophagus, suggesting a difference in acid reflux pattern between low- and high- grade RE in association with the circumferential distribution of mucosal breaks. However, it remains unclear whether the circumferential location of esophageal mucosa breaks changes during a long-term course of RE. The aim of this study was to investigate the circumferential distribution of mucosal breaks in patients with recurrent RE and compared their location to that noted at the initial diagnosis.

MATERIALS AND METHODS

We retrospectively reviewed the medical records of patients diagnosed with recurrent RE

with LA grade A-C at Shimane University Hospital between July 1996 and June 2014. All were initially given proton pump inhibitor (PPI) treatment for at least 2 months and healing of initial mucosal breaks was confirmed by esophagogastroduodenoscopy findings. Patients with new esophageal mucosal breaks were diagnosed as recurrent RE, irrespective of acid suppressive treatment, and enrolled in this study. Information regarding clinical parameters, including demographics (age, sex), PPI or H_2 receptor antagonist (H_2RA) administration at the time of recurrence, presence of hiatal hernia, and gastric mucosal atrophy was reviewed.

The grade and the circumferential distribution of esophageal mucosal breaks were evaluated at the time of the initial diagnosis and again at the time of recurrence. The circumferential locations of mucosal breaks on the esophageal wall were evaluated as on a clock face, with the anterior wall of the esophagus always positioned at 0 o'clock. Subjects with recurrent RE were divided into 2 groups; recurrence at the same location and that at a different location, and the background factors were compared between the groups. The study protocol was approved by the Ethics Committee of Shimane University School of Medicine.

RESULTS AND DISCUSSION

A total of 114 patients with recurrent RE (76 males, 38 females) whose mean (± SD) age was 65.5 ± 12.5 years (range 34-86 years) at the time of the initial diagnosis were enrolled. The number of cases with LA grade A was 71, while 34 were LA grade B and 9 were LA grade C, while those numbers at recurrence were 68, 38, and 8, respectively. The mean time to recurrence after the initial diagnosis was 39.4 ± 31.4 months (range 3-142 months). PPIs were administrated to 44 patients, while H_2 RA were administered to 10 patients at the time of recurrence.

First, we evaluated the change in severity of LA grade at recurrence. Only 17 (14.9%) progressed to a more severe grade of RE, while the majority (72.8%) had recurrence at the same LA grade as at the time of the initial diagnosis. Next, we assessed the circumferential distribution of mucosal breaks in the esophageal wall in our patients at the time of initial diagnosis and at recurrence of RE. Esophageal mucosal breaks were mostly found on the right anterior wall of the esophagus in RE patients with LA grade A or B, while those were often seen on the posterior wall of the esophagus in patients with high grade RE (grade C), regardless of the timing of the endoscopic observation (initial diagnosis or recurrence) and presence or absence of PPI administration. In addition, recurrent mucosal breaks in 96 (84.2%) patients were observed to have occurred in the same circumferential location as at the initial diagnosis, while those in 18 (15.8%) were observed in a different location, indicating that the majority had recurrence at the same location. There were no significant differences in regard to age, time period to recurrence, administration of PPIs at recurrence, or presence of hiatal hernia and atrophic gastritis between the groups. However, recurrence with a different LA grade severity was significantly associated

with a different location of mucosal breaks at recurrence ($P<0.05$).

The current study is the first to show that most patients with recurrent RE develop mucosal breaks at the same circumferential location as noted at the time of initial diagnosis. When clinical parameters in recurrent cases were compared between those with the same and different locations of new lesions, recurrence with a changed LA severity grade, irrespective of improvement or progression, was the only significant parameter. Our results suggest that acid reflux mechanisms in patients with RE differ among the different grades and the pathogenetic mechanism does not usually change over the long term. When a new lesion is found in a different circumferential location, a different acid reflux mechanism, such as having hiatal hernia, should be suspected as predominant in that patient. Therefore, the circumferential location of lesions observed during follow-up endoscopic examinations may be an important parameter to diagnose regarding disease progression.

CONCLUSION

We found that most patients with recurrent RE developed lesions in the same circumferential location as noted for the initial lesions. Those in different locations at recurrence were associated with a change in LA grade.