Brief Questioning by Nursing Staffs before Endoscopic Examination May Not Always Pick Up Clinical Symptoms of Endoscopic Reflux Esophagitis

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Received 15 October, 2009; Accepted 28 December, 2009; Published online 10 April, 2010

Summary The clinical features of patients reflux esophagitis without any symptoms have not been clearly demonstrated. This study evaluated the clinical features of patients with endoscopy-positive reflux esophagitis, who did not complain of symptoms, as detected by brief questioning by nursing staffs. Eight thousand and thirty-one patients not taking medication for gastrointestinal disease, were briefly asked about the presence of heartburn, dysphagia, odynophagia and acid regurgitation by nursing staffs before endoscopy for assessment of esophagitis utilizing the Los Angeles Classification. Endoscopically, 1199 (14.9%) patients were classified as positive for reflux esophagitis. The endoscope positive subjects who complain heartburn were 539/1199 (45.0%). The endoscope positive subjects who do not complain symptoms were 465 in 1199 positive reflux esophagitis (38.8%). We compared endoscopic positive subjects without any complain by brief question by nursing staffs to endoscopic positive subjects with heartburn. Male gender, no obesity, absence of hiatus hernia, and low-grade esophagitis were associated with endoscopy-positive patients who do not complain of symptoms. The results of this study indicated correct detection of clinical symptoms of reflux esophagitis might be not easy with brief questioning by nursing staffs before endoscopic examination.

Key Words: Los Angeles Classification, gastroesophageal reflux disease, heartburn

Introduction

Gastroesophageal acid reflux causes a variety of clinical symptoms, such as heartburn, acid regurgitation, dysphagia and retrosternal pain. These reflux symptoms show varying severity, frequency and incidence [7]. Endoscopic evaluation is a reliable method for evaluation of esophagitis [1, 2] and the Los Angeles Classification is one of the most accepted grading systems for esophageal mucosal breeches [2, 3]. It is widely accepted that such typical clinical symptoms of gastroesophageal reflux reflect the presence and grading of endoscopic reflux esophagitis. Clinical symptoms might vary between countries and races [4, 5], and several studies from Japan have indicated a relationship between symptoms and reflux esophagitis [6–17]. Our coworkers have previously indicated that clinical symptoms detected by short questions before endoscopic examination were not always equivalent to grading of reflux esophagitis, especially regarding dysphagia, in a cross-sectional study of 8031 subjects [8, 18]. The present study aimed to assess limitation of brief asking of symptoms before endoscopic
were: grade A, one or more mucosal breaks, each no longer
was conducted. The criteria for the diagnosis of esophagitis
testing and several meetings were held before this study
interobserver variation in the grading of esophagitis, pre-
Upper gastrointestinal endoscopy
results before their evaluation of reflux esophagitis.
"yes" or "no". Endoscopists were blinded to the interview
viewed by nursing staff who briefly asked questions
symptoms before a routine physical examination. The
Declarations of Helsinki. The clinical study committee of
examinations from a primary gastroenterological mass survey
enrolled in the present multicenter study from September
mucosal breaks with esophagitis according to the Los
Society. The endoscopists were directed to grade esophageal
esophagitis was performed by experienced endoscopists,
endoscopic reflux esophagitis and was found in 539 of 1199 (45.0%)
and duodenal ulcers, polyps and cancer, but dis-
orders other than esophagitis were not evaluated in this study.

Materials and Methods

Patients
This study re-analyzed, focused on symptoms detection
by nursing staff, data detected in the previous study [8],
and the recruited method described briefly as follows: Patients
were recruited from 23 hospitals, including the Saga
Medical School, in Saga Prefecture (population, ~800,000),
and were not randomly selected community samples as in
our previous studies [8]. A total of 8031 Japanese patients
(4120 male, 3911 female; aged ≥30 years, mean 59.4) were
enrolled in the present multicenter study from September
1996 to October 1998. Among the 8031 patients, 6166 were
outpatients who visited the 23 hospitals but did not receive
medication for gastrointestinal disease, and the other 1865
were mainly selected from those receiving secondary
examinations from a primary gastroenterological mass survey
conducted in Saga Prefecture (50000/year), or patients who
visited the hospitals for a routine physical examination. The
study was conducted according to the provisions of the

Symptom assessment
Before endoscopic examination, each patient was inter-
viewed by nursing staffs who briefly asked questions
regarding current clinical symptoms, including heartburn,
dysphagia, odynophagia (chest pain or irritation on swal-
lowing) and acid regurgitation. The patients simply answered
"yes" or "no". Endoscopists were blinded to the interview
results before their evaluation of reflux esophagitis.

Upper gastrointestinal endoscopy
Upper gastrointestinal endoscopy for evaluation of reflux
esophagitis was performed by experienced endoscopists,
certified by the Japan Gastroenterological Endoscopy
Society. The endoscopists were directed to grade esophageal
mucosal breaks with esophagitis according to the Los
Angeles Classification of Esophagitis in 1996 [2]. To reduce
interobserver variation in the grading of esophagitis, pre-
testing and several meetings were held before this study
was conducted. The criteria for the diagnosis of esophagitis
were: grade A, one or more mucosal breaks, each no longer
than 5 mm; grade B, at least one mucosal break more than
5 mm long; grade C, at least one mucosal break, continuous
between the tops of two or more mucosal folds; grade D,
circumferential mucosal break. The endoscopists were also
required to check for upper gastrointestinal diseases such as
gastric and/or duodenal ulcers, polyps and cancer, but dis-

Statistical analysis
We analyzed data from endoscopy-positive patients who
did not complain of symptoms. Most of the analyses gave
rise to contingency tables by the χ2 test of independence and
the Cochran–Mantel–Haenzel method. We used a logistic
regression model to compute the odds ratio (OR) and the
95% confidence interval (CI) in multivariate modeling.
Age, sex and other symptoms were adjusted to calculate the
OR. Two-tailed p values <0.05 were considered significant.
Statistical analyses were performed with the SAS statistical
package (version 6.08; SAS Inc., Cary, NC).

Results
Esophagitis was found in 1199/8031 (14.9%) patients.
The grade of reflux esophagitis was evaluated by endoscopy,
as follows: grade A, 717 (8.9%) patients; grade B, 341
(4.2%); and grade C + D, 141 (1.8%). Heartburn was the
most common symptom of reflux esophagitis and was found
in 539 of 1199 (45.0%) endoscopy-positive patients. Four
hundred and sixty-five of 1199 (38.8%) of endoscopy-
positive patients did not complain of any symptoms. The
clinical characteristics of Group I (esophagitis with heart-
burn) and Group II (esophagitis without any symptoms)
were compared. As indicated in Table 1, the number of
males was significantly higher in Group II compared to
Group I. Body mass index (BMI) was significantly higher in
Group I than in Group II. The rate of hiatus hernia was high
in Group I, and endoscopic esophagitis was significantly
more severe in Group I compared to Group II. Other factors
including age, smoking and alcohol consumption did not
differ between the two groups.

Univariate analysis of clinical characteristics of patients
in Groups I and II is shown in Table 2. This indicated
that gender, BMI, hiatus hernia, and severity of reflux
were closely related to the presence or absence of clinical
symptoms of endoscopic reflux esophagitis. Results of
multivariate analysis are shown in Table 3. As indicated,
males was significantly higher in Group II compared to
Group I.
In the present study, we evaluated endoscopy-positive patients who did not complain of symptoms by brief questions by nursing staffs, as in our previous studies [8, 18], and who had not been given medication for gastrointestinal disease. Precise and structured questionnaires for reflux symptoms are useful for diagnosis of gastroesophageal reflux disease, and heartburn is a major and specific symptom that is associated with abnormal manometric and pH results [19–25]. It has also been shown that a brief and simple questionnaire is reliable for noting changes in reflux symptoms [10, 26]. We did not use precise questionnaires in this study, because the aim was to establish whether patients who suffered from reflux symptoms in daily life could be detected by brief questioning by nursing staffs. This consisted of briefly asking the patients about heartburn, dysphagia, odynophagia and acid regurgitation before endoscopic examination, and the patients simply answered “yes” or “no”. The present study focused on patients with endoscopy-positive reflux esophagitis without clinical symptoms, assessed by brief questioning by nursing staffs. The number of endoscopy-positive patients who did not complain of any symptoms was ~6% (465/8031) of the whole group tested. The ratio of patients without symptoms among those with endoscopic esophagitis was relatively high, 465/1199 (38.8%). This high ratio was partly due to the specific conditions of the present study. The patients surveyed were limited to outpatients who did not receive medication for gastrointestinal disease. The patients were selected from those receiving secondary examinations from a primary gastroenterological mass survey conducted in Saga Prefecture, and the patients visited the hospital for a routine physical examination. The level of severe esophagitis in this study was low, around 2%. The nursing staffs asked patients brief questions, and patients simply answered “yes” or “no”. The cross-sectional study with a large subject population indicated that the characteristics of patients with endoscopic esophagitis without any clinical symptoms were male gender, absence of obesity and hiatus hernia, and low-grade esophagitis, compared to patients with endoscopic esophagitis with heartburn. We performed a large number of routine endoscopic examinations, because upper gastrointestinal endoscopy is an examination routinely performed once a year in Japan due to the high prevalence of gastric cancer and squamous cell cancer of the esophagus. As a
result, the characteristics of the esophagitis patients without any symptoms questioned by nursing staffs were estimated in this study.

Endoscopic examination and clinical symptoms are most reliable for diagnosis of reflux esophagitis in normal clinical situations [1, 4, 5, 8, 27–29]. This study indicated that detection of clinical symptoms of reflux esophagitis was not easy using a short questionnaire administered by nursing staffs. This suggests that precise interview for clinical symptoms and/or a questionnaire for reflux esophagitis might be required for nursing staffs and health practitioners to carry out precise diagnosis of reflux esophagitis.

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