Prevalence of Non-erosive Reflux Disease in Pondok Indah Hospital: a Preliminary Study

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ABSTRACT

Aim: to investigate the prevalence of NERD in Pondok Indah Hospital and its proportion in dyspepsia and GERD patients.

Methods: this pre-eliminary study aimed to investigate the prevalence of NERD in Pondok Indah Hospital and its proportion with the term of traditional dyspepsia.

Results: 475 medical records of patients who underwent endoscopic procedure in Pondok Indah Hospital in April 2002 – July 2003 had been re-evaluated. Patients aged between 9 – 86 years old (median age of 42), and half of the patients were male (50.5%). Diagnosis at entry was dyspepsia or gastritis (70.5%), while GERD only accounted for 4.8%. Endoscopic results revealed most of patients (55.5%) had mild lesion (non-ulcer). Of 154 patients with GERD, 123 patients (80%) only showed hyperemic mucosa and the other 4 (2.6%) without any abnormalities. Thus, total NERD patients were 127 (26.7%).

Conclusion: prevalence of NERD in patients with dyspepsia who underwent endoscopic procedure was 26.7%. This finding supports the fact that NERD is a single disease entity different from dyspepsia. Further study is needed to investigate prevalence of NERD in general population, its risk factors and appropriate management.

Key words: dyspepsia, gastroesophageal reflux disease (GERD), non-erosive reflux disease (NERD), functional dyspepsia, non-ulcer dyspepsia, prevalence.

INTRODUCTION

Dyspepsia symptoms are commonly found in daily clinical practice with prevalence approximately 25%. In the past two decades, there have been revolutionary changes in the understanding pathogenesis of dyspepsia. In the early 1990, dyspepsia with main symptom of reflux was distinctly separated into one disease entity called gastroesophageal reflux disease (GERD). Dyspepsia itself is defined as pain or discomfort located in upper part of the abdomen.

Characteristic of GERD symptom is heartburn or gastric acid regurgitation. GERD is diagnosed in patients who experience significant disturbance of health and quality of life due to reflux related symptoms although they have been convinced that those are benign symptoms.2 Traditionally, GERD was considered a diagnosis spectrum with three main classification groups as follows; non-erosive reflux disease (NERD), erosive esophagitis and Barret’s esophagus.3 This classification is based on the concept of mucosal damage causing the symptoms. However, NERD patients had reached as high as 70% of all GERD patients and NERD did not develop to GERD in the course of disease.4 The term ‘NERD’ then was defined as the presence of GERD symptoms due to intra esophageal acid without evidence of mucosal damage of esophagus by endoscopy. Recent studies has concluded that NERD is not a milder type of GERD but it is a different kind of heterogenous disease entity.5 Observational study of 24 hours of pH level showed that 50% NERD patients had normal distal esophageal pH level. It was predicted that prevalence of NERD was actually higher than had been recorded before and would need more tailored management.

Data on prevalence of NERD recently is obtained from studies conducted in western countries. Studies of NERD in Asia are still rare. In addition, Asia Pacific dyspepsia consensus did not mention the existence of NERD. The cause of this is the fact that symptom of heartburn is uncommon in Asian population. Aside from that, the term of heartburn is not well understood by most of Asian people, including Indonesian. Thus, there might be underdiagnosis of NERD in Asia. Data on NERD in Indonesia are still rare. This study is aimed to investigate the prevalence of NERD in Pondok Indah Hospital/ endoscopy division Pondok Indah Hospital, Jakarta
Hospital and its proportion in dyspepsia and GERD patients. Furthermore, the diagnosis differentiation of dyspepsia, GERD and NERD will lead to more appropriate management of the diseases.

METHODS

Patients
This is a descriptive cross-sectional study. Study subjects were all dyspepsia patients who were referred for endoscopy examination in Endoscopy Unit Pondok Indah Hospital, Jakarta. Study subjects were patients who came between April 2002 and July 2003. Data were obtained from medical records.

Inclusion criteria were patient with symptoms of dyspepsia and reflux/regurgitation who were indicated for endoscopy examination. The patient was excluded if endoscopic appearance showed esophageal varices due to liver cirrhosis.

RESULTS

Four hundred and seventy five patients who underwent endoscopy examination between April 2002 and July 2003 were enrolled in this study. Ages of the patients were ranging from 9 – 86 years old. Two hundred and forty three patients (50.5%) were male. Diagnosis at entry were dyspepsia and gastritis (acute and chronic) accounted for 74.4% and only 4.8% were diagnosed GERD before underwent endoscopy procedure.

Endoscopic results showing the most frequent appearance was hyperemia of gastric mucosa (55.5%) followed by erosive gastritis (15.2%) and peptic ulcer (ventriculi and duodenal) was 9.1%. No sign of malignancy was found in all patients enrolled (table 2).

DISCUSSION

This is a pre-eliminary study of prevalence of NERD in Indonesia which was conducted by re-evaluation of endoscopic appearance of dyspepsia patients. Most of patients were diagnosed based on ‘traditional’ criteria of dyspepsia overlapped with NERD and GERD. Patients’ complaints frequently found were epigastric pain, vomit and nausea. Symptom of heartburn was rarely found. Diagnosis of GERD at baseline is rare (4.8%)
because most of physicians have not been accustomed to this term and prefer to use the old diagnosis of dyspepsia or gastritis.

Study population were patients with symptoms of dyspepsia more than 2 months and had indication of endoscopic examination or patients with hematemesis, unresponsive to pharmacologic treatment such as antacids, H2 receptor antagonist, proton pump inhibitor, etc. However, more than half of patients did not showed any significant mucosal damage or no sign of abnormalities at all. On the other hand, reflux symptoms were clear in one third patients with or without mucosal abnormalities.

GERD symptoms in the US are approximately experienced by 44% population in 1 month or about 20% in a week. Several studies in western countries found that 50-70% patients with heartburn had normal endoscopic findings, thus they were called symptomatic GERD or NERD. When we made the calculation, the total number of NERD patients in this study were 127 patients (26.7%) of total cases enrolled or 82.6% of total patients with reflux symptom. This figure is not in accordance with those studies of western countries which were usually conducted in referral hospitals as well.

This study is interesting in that most of the patients enrolled in this study were diagnosed with dyspepsia with symptoms of epigastric pain, vomit and nausea, while those in western population mostly had symptom of heartburn or regurgitation. The term heartburn is not well-known by Indonesians, thus, it might be unexpressed by the patients. However, if the term “heartburn” was explained more clearly to patients with functional dyspepsia, it was found more frequently than before. Thus, this group of patients had to be differentiated from dyspepsia. This is the reason why further study is needed to investigate the ‘actual’ prevalence of gastroesophageal reflux disease in Indonesia.

### Table 3. Mucosal Appearance by Endoscopy Examination of GERD (n=154)

<table>
<thead>
<tr>
<th>Endoscopic appearance</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No abnormalities</td>
<td>4</td>
<td>2.6</td>
</tr>
<tr>
<td>Mucosal hyperemia</td>
<td>123</td>
<td>80</td>
</tr>
<tr>
<td>Erosive gastritis</td>
<td>10</td>
<td>6.5</td>
</tr>
<tr>
<td>Duodenitis</td>
<td>4</td>
<td>2.6</td>
</tr>
<tr>
<td>Bulbities</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td>Esophagitis</td>
<td>8</td>
<td>5.2</td>
</tr>
<tr>
<td>Gastric polyp</td>
<td>2</td>
<td>1.3</td>
</tr>
<tr>
<td>Gastric ulcer</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td>Total</td>
<td>154</td>
<td>100</td>
</tr>
</tbody>
</table>

### CONCLUSION

Based on this preliminary study, it is concluded that prevalence of NERD is relatively high and accounted for 27.6% of patients with dyspepsia or 82.5% patients with GERD. Further study is needed to investigate the prevalence of NERD in general population and identify the causal factors. More understanding in the pathogenesis of the disease will reveal novel horizon in the management of dyspepsia in general and specially management of gastroesophageal reflux disease.

### REFERENCES