Association Between Functional Dyspepsia and Severity of Depression

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ABSTRACT

Objective: To determine the association between functional dyspepsia and the severity of depression.

Study Design: Cross-sectional study.

Place and Duration of Study: Department of Medicine, King Edward Medical University/Mayo Hospital, Lahore, from September 2012 till January 2013.

Methodology: After taking informed written consent, patients with symptoms of dyspepsia fulfilling the Rome III criteria were included in the study. All patients were evaluated for depression, using Hamilton depression rating scale (HDRS). Upper gastrointestinal endoscopy was done. Fischers’ exact test and independent t-test were used for determining significance of association.

Results: One hundred and one patients with mean age of 35.81 (±14.81) years and male to female ratio of 1.41:1 (54/47) were included. Predominant symptoms were early satiety (72.3%), epigastric pain (65.3%), bloating (49.5%), postprandial fullness (40.6%), and regurgitation (40.6%). Alarm symptoms were positive in 44 (43.6%) patients. Dyspepsia were classified as epigastric pain syndrome (EPS, 69.3%), and postprandial distress syndrome (PDS, 30.7%). Significantly more females had PDS (p=0.04), with positive endoscopic findings in EPS (p=0.03). Positive endoscopic findings noted were esophagitis in 21.8%, and gastritis in 48.5% patients. All patients except one had depression, mild in 22.8%, moderate in 33.7%, severe in 31.7%, and very severe in 10.9% patients. Severe depression was seen in 32 (45.7%) patients with EPS and PDS; whereas very severe depression was in 11 (15.7%) patients of EPS, while 11 (35.4%) patients of PDS had severe depression but the difference was not significant.

Conclusion: Functional dyspepsia is associated with depression, while positive endoscopic findings are more likely in patients with EPS. Very severe depression was only seen with epigastric pain syndrome.


INTRODUCTION

Functional dyspepsia (FD) also known as non-ulcer dyspepsia, accounts for approximately half of the gastroenterologists’ workload. It is one of the most common gastrointestinal problem seen in primary care setting. The definition of FD along with addition of its subcategories was revised in 2006 as Rome III. It is hence defined as “the presence of symptoms thought to originate from the gastro-duodenal region, in the absence of any organic, systemic, or metabolic disease that is likely to explain the symptoms”. FD falls into two sub-categories, which are constellation of symptoms, i.e. epigastric pain syndrome (EPS) and postprandial distress syndrome (PDS). PDS includes one or more symptoms of bothersome postprandial fullness and early satiation, while EPS includes unexplained epigastric pain and/or burning. Both occur in patients with no evidence of structural disease that could explain the symptoms. FD is associated with significant functional impairment and burden on healthcare resources. Estimates of community prevalence of dyspepsia have varied widely from 5% to 40%. The pathogenesis of FD is unclear. The role of psychological factors as a cause of FD is also a controversial one. Previous studies have shown that evaluation of patients of chronic dyspepsia for psychosomatic and cognitive factors is very important. Psychological illness is not only associated with but also is a predictor of symptom relief in such patients. One study reported that treatment with a combination of an anxiolytic and antidepressant provided improvement in dyspepsia symptoms. The most common psychiatric comorbidities in patients with FD are anxiety disorders, depressive disorders and somatoform disorders. Many of psychosocial factors have been examined in the literature in relation to FD. These include psychological distress, personality traits, social support, life-events, and life-stresses.

This study was, therefore, conducted on patients fulfilling the Rome III criteria, to evaluate the frequency and association between functional dyspepsia and its sub-categories, with depression and its severity.
METHODOLOGY

A cross sectional study was conducted at the Department of Medicine, Mayo Hospital, Lahore, from September 2012 till January 2013. All patients attending the endoscopy unit at the study place with dyspeptic symptoms, and those fulfilling the Rome III criteria for FD were recruited. Patients were excluded if they had a history of peptic ulcer disease, or were regularly using non-steroidal anti-inflammatory drugs. All patients with a history of abdominal surgery, with the exception of appendectomy, cholecystectomy, or hysterectomy more than 1 year previously, were also excluded. Informed written consent was taken.

All patients were evaluated for depression using Hamilton depression rating scale (HDRS). Each item on the HDRS questionnaire is scored on a 3 or 5 point scale. A score of 0 - 7 is considered to be normal, 8 - 13 denotes mild depression, 14 - 18 is moderate depression, 19 - 22 indicates severe depression, whereas a score of more than 23 is considered to be very severe depression. This multiple-item questionnaire is designed for adults and is used to rate the severity of their depression by probing mood, feelings of guilt, suicide ideation, insomnia, agitation or retardation, anxiety, weight loss, and somatic symptoms. Upper GI endoscopy was done using GIF - 160 and findings were noted.

SPSS version 20 program (Chicago, IL, USA) was used for data analysis. Distribution of variables between cases was compared by computing proportions for categorical variables and means and medians for quantitative variables. Results are presented as mean ± standard deviation for quantitative variables and number (percentage) for qualitative variables. Differences in mean values, according to presence or absence of depression and its severity, were assessed by using the independent sample t-test. The differences in proportion was assessed by Fischer exact test. Significance was kept at p < 0.05.

RESULTS

One hundred and one patients with mean age of 35.81 ±14.81 years and male to female ratio of 1.41:1 (54:47) were included. Predominant symptoms noted were epigastric pain in 66 (65.3%), bloating in 50 (49.5%), early satiety in 73 (72.3%), postprandial fullness in 41 (40.6%), and regurgitation in 41 (40.6%) patients. Alarm symptoms were positive in 44 (43.6%) patients. Among alarm symptoms, 24 (23.8%) patients had weight loss, malena in 19 (18.8%) patients, hematemesis in 12 (11.9%) patients, new onset of symptoms at the age of 45 or more was noted in 19 (18.8%) patients and dysphagia was noted in 12 (11.9%) patients.

Patients of dyspepsia were classified as epigastric pain syndrome (EPS) noted in 70 (69.3%) patients and postprandial distress syndrome (PDS) in 31 (30.7%) patients (Table I). Significantly more females had PDS (p = 0.03). Upper GI examination was normal in 43 (42.6%), while 58 (57.4%) showed positive findings (p = 0.03). Positive endoscopic findings were esophagitis in 22 (21.8%) patients and mild to moderate gastritis in 49 (48.5%) patients.

When study patients were evaluated for depression using HDRS, all patients except one had depression, mild in 23 (22.8%), moderate in 34 (33.7%), severe in 32 (31.7%), and very severe in 11 (10.9%) patients. We compared the severity of depression in patients with EPS and PDS separately as shown in Table I. In EPS group, severe depression was seen in 21 (30%) patients while very severe depression was present in 11 (16%) patients only, with a significant difference (p=0.01). On the other hand, only 11 (35.4%) patients with PDS had severe depression and none of the patients had very severe depression, but the statistical difference was not significant (p = 0.47, Table II).

DISCUSSION

Functional dyspepsia (FD) is a heterogeneous disorder in which the role of psychosocial factors continues to be the subject of debate. In present study, almost all patients except one, were suffering from depression. An overview of studies comparing level of psychosocial states and/or prevalence of psychiatric disorders

<table>
<thead>
<tr>
<th>Type of dyspepsia</th>
<th>No depression (1 - 7)</th>
<th>Mild depression (8 - 13)</th>
<th>Moderate depression (14 - 18)</th>
<th>Severe depression (19 - 22)</th>
<th>Very severe depression (≥ 23)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epigastric pain syndrome</td>
<td>1 (1.0%)</td>
<td>17 (22.8%)</td>
<td>20 (33.7%)</td>
<td>11 (18.8%)</td>
<td>0 (0%)</td>
<td>70</td>
</tr>
<tr>
<td>Postprandial distress syndrome</td>
<td>0 (0%)</td>
<td>6 (9.8%)</td>
<td>14 (22.8%)</td>
<td>11 (18.8%)</td>
<td>0 (0%)</td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>1 (1.0%)</td>
<td>23 (22.8%)</td>
<td>34 (33.7%)</td>
<td>32 (31.7%)</td>
<td>11 (10.9%)</td>
<td>101</td>
</tr>
</tbody>
</table>
between patients with FD and healthy individuals in London, convincingly demonstrated a strong association between depression, anxiety and FD. There are many studies proving the role of depression and other psychiatric disorders in FD, but few studies also refuted this association. Another study conducted in Taiwan, showed that the depressed FD patients had higher symptom scores than non-depressed patients (p < 0.05) and after one-month of antidepressant treatment, the symptom scores improved significantly in the depressed functional dyspepsia patients (p < 0.05), but not in the non-depressed patients.

Results showed significant and independent association of depression with dyspepsia, specially its sub-category EPS. A study conducted in Sweden's general population showed a significant association of PDS with anxiety; in contrast EPS was associated more with depression. These results were consistent with our study result. Functional dyspepsia accounts for 62.5% of dyspepsia in a population of black African patients, regarding sub-categories, epigastric pain syndrome, postprandial distress syndrome, and combination of the two subtypes account for 79.2%, 62.5%, and 50%, respectively. Another large cross-sectional population based study concluded that only anxiety but not depression is linked to FD, specially its sub-type PDS (OR 4.35 [95% CI, 1.81 - 10.46]). No link was established with EPS. The results of this study opposed our results, which showed that patients with severe and very severe depression were predominantly suffered from EPS. Another cross-sectional study conducted in Malaysia showed 68% patients suffering from EPS and depression, and only 32% patients had EPS+PDS (mixed) and depression.

A case control study conducted on local community using self-reporting questionnaire (SRQ) proved that common mental disorders are an important co-morbid factor among subjects with functional dyspepsia. In the present study, PDS was significantly more common in females. This is consistent with a study done in Saudi Arabia, which showed that psychiatric disorders are more common in female patients with non-ulcer dyspepsia. Another population-based case-control study reported health-related quality of life (HRQoL) impairment overall among patients with FD. This impairment was more apparent in female patients than in female controls. Females with FD tended to be more negatively affected in their daily life than their male counterparts.

Positive endoscopic findings and alarm symptoms were noted pre-dominantly in patients with EPS. It is also seen in the Malaysian study in which patients with EPS had alarm symptoms 37.5% as compared to 19.4% in non-functional dyspepsia group. Though the analysis did not yield any significant association, severe form of depression is noted particularly in patients with EPS. Is the EPS an independent predictor for the increasing severity of depression or other co-morbidities, risk factors or environmental stimuli play intricate role, is still to be investigated?

Limitations of the study were the phenomenon of recall bias concerning estimation of symptoms and their characteristics and severity. Another possible bias may have been the likelihood that the more seriously affected patients overestimated their symptoms, and relatively healthier patients underestimated theirs. The prevalence of EPS and PDS in this study could not be generalized to the different ethnic backgrounds in Pakistan due to difference distribution of the population in this region.

CONCLUSION

Functional dyspepsia is strongly associated with depression. Very severe depression is predominantly seen in patients with epigastric pain syndrome.

REFERENCES


