Original article

Association of moderate level of anxiety in functional dyspeptic patients attending out door general practice in teaching hospital Kathmandu.

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Abstract

Introduction: Functional dyspepsia (FD) is a clinical syndrome defined by chronic or recurrent upper abdominal symptom without identifiable cause by conventional diagnostic means. Hamilton Anxiety Rating Scale (HAM-A)[5] is used to measure the severity of anxiety symptoms with mild, moderate & severe score. Only moderate level of anxiety (HAM-A) was responsible for functional dyspepsia. As age increases, chance of anxiety induced dyspepsia was also increased. This study was conducted to determine the prevalence of moderate anxiety induced dyspepsia patients presented to General Practice OPD, TUTH among 15-39 years age.

Methods: 100 patients aged 15-39 years with relapse of dyspeptic symptom within 2 weeks after 6 weeks' treatment with proton pump inhibitor (PPI) correlated with moderate level of Hamilton Anxiety Rating Scale (HAM-A) who presented to GP OPD, TUTH were taken for study. Other causes of dyspepsia were excluded before enrolling them for the study. All of them underwent blood test for Helicobacter Pylori IgG serology. HAM-A scale of 18-24 score took as moderate anxiety which required treatment by TCA & PPI. Rest patient score of less than 18 were managed with PPI and above 24 score were referred to psychiatrist. Similarly duration of epigastric pain, sex & age of patients were also considered for analysis.

Results: Among 100 patients, 31 of them were positive for moderate anxiety (HAM-A). 27.27% male and 33.93% female had moderate level of anxiety. Though P value was not significant, there was moderate anxiety level with functional dyspepsia associated with increasing age. Duration of epigastric pain was not significantly associated with moderate anxiety.

Conclusion: Functional dyspepsia is common problem in Nepalese population, causing difficulties in their day to day life. Moderate level of anxiety (HAM-A) should be considered in management of functional dyspepsia in those with relapse of dyspepsia after discontinuation of PPI. Moderate anxiety with dyspepsia was associated with increasing age and in female gender.

Key words: Anxiety Rating Scale, Epigastric Pain, Helicobacter Pylori serology, TUTH.

Introduction

Dyspepsia is common among Nepalese population. If we are able to know the prevalence of level of anxiety in dyspeptic patients then many patients can be managed effectively. I carried out this study with the general objective to assess the prevalence of moderate level of anxiety among dyspeptic patients attending the general

practice OPD TUTH Kathmandu and specific objective was to find out if there is correlation with age, gender and duration of pain with moderate level of anxiety in dyspepsia. Dyspepsia is defined from Greek words dys and pepse and literally means"difficult digestion". Dyspepsia can occur due to organic causes. But majority of patients suffer from functional dyspepsia (FD).

Functional dyspepsia is a clinical syndrome defined by chronic or recurrent upper abdominal symptoms without identifiable cause by conventional diagnostic means[1]. It is broadly defined as pain or discomfort centered in the upper abdomen with symptoms such as epigastric pain, postprandial fullness , early satiety, anorexia, belching, nausea, vomiting, upper abdomen bloating and even heart burn and regurgitation. People with functional dyspepsia have generally significant reduced quality of life when compared to the general population[2]. Non ulcer dyspepsia can cause a variety of symptoms such as abdominal pain, bloating, nausea and vomiting. For many patients with somatic complaint as well as symptoms of anxiety and depression, diagnostic testing is not recommended, except in patients with serious risk of dysphasia , protracted vomiting, anorexia, melena and anemia[3]. Functional dyspepsia is uninvestigated dyspepsia without findings of esophagitis, peptic ulcer, celiac disease, or cancer and no evidence of other structural diseases at endoscopy that was likely to explain symptoms.

According to Rome III definition , further Functional Dyspepsia was divided into the following 1) postprandial distress syndrome, consisting of bothersome postprandial fullness, and / or early satiation, and 2) epigastric pain syndrome, consisting of pain or burning localized to epigastric area and not generalized or localized to other abdominal or chest regions and not relieved by defecation[4].

Hamilton Anxiety Rating Scale (HAM-A) was one of the first rating scale developed to measure the severity of anxiety symptoms and is still widely used today in both clinical and research settings. The scale consists of 14 items. Each item was defined by a series of symptoms and measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaint related to anxiety). Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0-56, where <=17 indicates mild , 18-24 moderate and 25-30 severe with sensitivity 87.7% and specificity 63.5%. [5] . In adult , low doses of an antidepressant medicine TCA help to reduce symptom of dyspepsia, even if they are not depressed. One of most commonly used antidepressants is called a Tri cyclic anti depressant (TCA Amitriptyline) . It is not clear how TCA works, but they seem to reduce pain which are taken as low doses[15, 19.].

Barlow et al defined anxiety as a cognitive affective structure composed of three key components: 1, a future oriented negative affective state (sense of uncontrollability focused on possible future negative events) . 2, a state of self – focused attention (especially focused on one's inadequate capabilities to deal with the threat and 3, preparedness to attempt to cope with events[16].

The reported prevalence of functional dyspepsia is high. Johnsen et al, in a Norwegian population based survey, found the life time prevalence of functional dyspepsia to be 23% in men and 18% in women. In a study of employees in the United States, the prevalence rate of functional dyspepsia was 29%[8].A study from Japan reported that prevalence of functional dyspepsia was 13% and 8% in age groups below and above 50years[13].

Early life -stress and acute life threatening situations are strong risk factors for developing FD. The most common psychiatric co morbidities in patients with functional dyspepsia are anxiety disorders, depressive disorder ,somatoform disorder and a recent or remote history of physical or sexual abuse [8].

Gender: Majority of population based studies do not show any gender difference in dyspepsia prevalence. In a few cases female preponderance with dyspepsia was seen[8,9].

Serology has a diagnostic accuracy of 80-84%[10]. Serology can remain positive for months to years after successful eradication . Positive serology results at least need to be confirmed by other methods. However negative result almost rule out current infection[11].Therefore, serology is useful when other diagnostic tests might be false negative, such as in patients with bleeding ulcers, gastric atrophy, past gastric surgery and recent use of PPIs or antibiotic[12]. Culture, requiring an endoscopy has excellent specificity and is necessary for determination of antibiotic sensitivity. Histology has good sensitivity and specificity but is generally only available in endoscopy setting. As no test is 100% accurate, there may be a case for using a concordance of two tests with different mechanisms. i.e. urea breath test together with serology or stool test , in order to prove[12]. Functional or non ulcer dyspepsia is a common problem in the community.

Only one fourth of individuals with dyspepsia seek medical consultation[7]. In an Australian survey adult with functional dyspepsia score highly on anxiety and depression scale[9].

Methods

This hospital based cross sectional study of patient presenting to GP OPD, TUTH with dyspepsia from May 2010 to April 2012 was taken for the study. Total of 100

patients aged 15 to 39 years having relapse of dyspepsia within 2 weeks after completing 6 weeks of treatment with PPI, were selected for the study, after their verbal consent was taken. Hamilton Anxiety Rating Scale (HAM-A) was assessed in all cases. And simultaneously the patients were asked about age, gender, duration of epigastric pain, HAM-A score 18-24 treated by TCA & PPI (tri cyclic antidepressant Imipramine 25 mg at bed time & proton pump inhibitor ,Pantoprazole.) and those patients were followed up to 2 months were included in study.

Persons with dyspepsia from known causes were excluded from study through H pylori IgG serology, aged below15 years and above 39 years, previously treated for h pylori eradication, any proven surgical cause of dyspepsia like gall stone, perforation, obstruction , pancreatitis etc. Medical cause like myocardial infarction, pneumonia, alcohol related hepatitis, family history of gastric malignancy, drug induced gastritis, smoking, NSAID (non steroidal anti inflammatory drug), HAM-A mild & severe rating score and those who did not agree for blood test were excluded. All the patients send Stool R/E & Urine R/E and suspected cases from history were advised to do USG of abdomen and endoscopy to rule out other causes of dyspepsia,

H pylori Ig G sero positive was evaluated with the commercially available Elisa kit (monobind , inc ia 92630 usa, ACCU – bind Elisa microwells, product code1425-3000 and level more than 20iu/ml was taken as positive.

Mild HAM-A score up to 17 was managed conservatively with PPI & simple supportive counseling and , score 18-24 was treated by TCA & PPI . But more than score 24 will be referred to psychiatrist.

Statistical analyses: The collected data were entered in Excel and statistical analysis was performed using SPSS software. Statistical analysis was done using χ^2 Test, and P-value less than 0.05 was considered as significant.

Result

A total of 100 patients underwent evaluation of cause of dyspepsia in relation with Hamilton Anxiety Rating Scale (HAM-A) in general practice OPD TUTH. Total 44 Male and 56 female were included in this study.

Table 1 : Gender wise distribution in relation to level of anxiety score HAM-A for dyspeptic patients , A = Mild anxiety HAM-A level of score up to 17, treated conservatively by PPI & simple supportive counseling.

B = Moderate anxiety HAM-A level of score 18-24 treated by TCA & PPI.

C= Severe anxiety HAM-A level of score 24 -30 will be referred to psychiatrist..

	Male	Female	Total
A, mild anxiety score up to 17 treated by PPI	32 (72.73%)	37(66.07%)	69
B, moderate anxiety score 18-24 treated by TCA & PPI	12 (27.27%)	19 (33.93%)	31
C, severe anxiety score 18-24,	None	None	none
Total	44	56	100

x^2=0.5103, P =0.475, above table 1 showed that P value is not significant.

-Mild anxiety of HAM-A scale <= 17 score, 72.73% Male and 66.07% Female of mild anxiety with total 69 patients were managed conservatively with PPI.

-Moderate anxiety of HAM-A scale =18-24 score, 27.27% Male and 33.93% Female of moderate anxiety with total 31 patients were managed with. TCA & PPI.

Severe anxiety of HAM-A scale = 25-30 score, was not present in this study.

There was no difference in relation with gender in level of anxiety score group for dyspeptic patients, though female had slight increased preponderance of moderate anxiety . But clinically 33.93% of female were having moderate Anxiety Level. This table showed average 31 % of patients having HMA-A moderate severity score prevalence among 100 patients presented to GP OPD treated by TCA & PPI group.

Table 2 a. **Age in years in relation to level of anxiety score for dyspeptic .**

A =HAM-A level of anxiety score up to 17, mild anxiety treated conservative by PPI.

B = HAM-A level of anxiety score 18-24 (moderate severity) , treated by TCA & PPI

Age 15-19 years	Male	Female	Total
A, level of anxiety score up to 17	2 (100%)	6 (75%)	8 (80%)
B, level of anxiety score 18-24	-	2 (25%)	2 (20%)
Total	2	8	10 (100%)

x^2 & P value, in above table P value can not be calculated. But clinically among age group between 15-19 years age, there were 2 cases (25%) of moderate anxiety level with dyspepsia in female gender and 6 (75%) cases were found in mild anxiety level. All together 20% of moderate anxiety with dyspepsia were found 15-19 years age group.

Table 2 b:

Age 20-29 years	Male	Female	Total
A, level of anxiety score up to 17	15 (75%)	10 (58.82%)	25 (67.57%)
B, level of anxiety score 18-24	5 (25%)	7 (41.18%)	12 (32.43%)
Total	20	17	37 (100%)

x^2 =1.09, P= 0.295 . above table showed P value is not significant. But clinically moderate anxiety level with dyspepsia among female were 41.18% and in male were 25%. There were 32.43% of moderate anxiety induced dyspepsia among 20-29 years age groups.

Table 2 c:

Age 30-39 years	Male	Female	Total
A, level of anxiety score up to 17	15 (68.18%)	21 (67.74%)	36 (67.93%)
B, level of anxiety score 18-24	7 (31.82%)	10 (32.26%)	17 (32.07%)
Total	22	31	53 (100%)

x^2 =0.001, P= 0.973 . above table showed P value is not significant. But clinically moderate anxiety level with dyspepsia prevalence male and female were almost similar. There were 32% of moderate anxiety level with dyspepsia among 30- 39 years age groups.

Table 3 : age in years , in relation to level of anxiety score for dyspeptic patients.

A =HAM-A level of anxiety score up to 17 mild severity treated conservative by PPI.

B = HAM-A level of anxiety score 18-24 (moderate severity) , treated by TCA & PPI

Age groups in years	A, level of anxiety score up to 17	B, level of anxiety score 18-24	total
15-19	8 (80%)	2 (20%)	10
20-29	25 (67.57%)	12 (32.43%)	37
30-39	36 (67.93%)	17 (32.07%)	53
Total	69	31	100

x^2 =0.630, P= 0.7298 ,

Above table 3 showed that p value is not significant . But with increased age of patients, level of moderate anxiety score (18-24) treated by TCA& PPI were increased from 20 % to 32% which is clinically significant value. Overall 31% moderate level of anxiety score group were treated by TCA & PPI among 100 patients for dyspepsia.

Table 4 : duration of epigastric pain in year, in relation to level of anxiety score for dyspeptic

A =HAM-A level of anxiety score up to 17 (mild), treated conservative by PPI.

B = HAM-A level of anxiety score 18-24 (moderate severity) , treated by TCA & PPI

Duration of pain in years	A, level of anxiety score up to 17	B, level of anxiety score 18-24	total
0-1	18 (64.29%)	10 (35.71%)	28
>1-4	35 (76.09%)	11(23.91%)	46
>4	16 (61.54%)	10 (38.46%)	26
Total	69	31	100

x^2=2.048, P=0.359, P value is not significant. The above table showed that duration of epigastric pain from less than one year to more than 4 years in relation with HMA-A anxiety score in dyspeptic patient were not significant. All together there were 64.29% of mild anxiety in less than one year of pain in epigastric region, 76.09% in 1-4 years pain and 61.54% of mild anxiety in more than 4 years of pain in epigastric. Similarly for moderate anxiety level, duration of epigastric pain in year did not change much. All together 31% level of anxiety score of moderate group were treated by TCA & PPI among 100 patients for dyspepsia.

Discussion

Among 100 patients, 44 male and 56 female were included in this study. 69% of patients with mild anxiety (HAM-A scale) were managed with 6 weeks of PPI. There was no relapse of dyspepsia in mild anxiety score treated with 6 weeks of PPI.

But there was relapse of dyspepsia in moderate anxiety within 2 weeks of cessation after completion of 6 week of PPI. But they did not have relapsed dyspepsia in 2 months of combination therapy of TCA & PPI. We had no case of severe anxiety level (HAM-A level >24), Patient who would like to get evaluated by psychiatrist. The prevalence of moderate Anxiety (HAM-A score 18-) were 31 among 100 patients. Moderate anxiety in developing countries is much higher than in developed countries which may be due to lower socio -economical status, high stress level. Li Y et.al showed that moderate anxiety in developing country is much higher than developed countries which may be due to socio economic status and high stress level. Similar report was found in 33% patients presented with possibly clinically relevant anxiety[17,18].

In gender wise distribution, we found 27.27% (12) males and 33.93% (19) females were positive for moderate level of anxiety associated dyspepsia. Though P value was not significant, female had more chances of moderate anxiety level than male. Similar study by Mahadeva s et.al showed female preponderance in anxiety[8,9].

Our study showed that 61.54% to 76.09% patients were having mild anxiety levels when they were compared with duration of epigastric pain in year from less than one to more than 4 years of pain, though P value was not significant in increasing duration of pain. But mild anxiety patients responded to PPI drug alone. As duration of epigastric pain increased from one year to more than 4 years, then moderate level of HAM-A anxiety increased from 35.71% to 38.46%. Though P value was not significant. But duration of epigastric pain was not much associated with moderate level of anxiety score. There were relapse of dyspepsia within 2 weeks of cessation after completion of 6 weeks of PPI in moderate anxiety level patients . But definitely 31% of anxiety patients with relapse of dyspepsia within 2 weeks of cessation after 6 weeks of PPI were treated by TCA and PPI. They did not have any relapse of dyspepsia within 2 months of combination therapy with TCA & PPI[20].

Our study also showed that younger age having 80% chances of mild anxiety which responded to 6 weeks of PPI. They did not have relapse of dyspepsia within 2 weeks of cessation after 6 weeks of PPI. As age increased , level of mild anxiety patients were also decreased to 67%., which responded to PPI. Similarly, as age of the patients were increased then level of moderate anxiety score were found to be increased. Among age group between 15 to 19 years there were.20% chances of increased moderate level of anxiety. Among age group between 20 to 29 years and 30 to 39 years, number of moderate level of anxiety constantly increased to 32%, though P value was not significant. But they clinically showed increased level of moderate anxiety in both sexes.

Our study showed younger age having less chances of moderate level of anxiety as compared to 32% in 20 to 39 years age.

Conclusion

Functional dyspepsia is common problem in Nepalese population causing difficulties in their day to day life. There was significant possibility of moderate level of anxiety (HAM-A) related dyspepsia which is responded to both TCA and PPI. Moderate level of anxiety induced dyspepsia was predominant in female and person with increased with age. There was no relationship between moderate anxiety and duration of epigastric pain. There were good clinical subjective beneficial responses in addition of TCA for two months. If we are able to reduce stress, caffeine, irregular eating pattern, smoking & alcohol then we can reduce anxiety induced dyspepsia.

Acknowledgements

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