Epidemiological Anthropometric and Dietary Assessment of Patients with Reflux Symptoms

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Conflicts of Interest: Nil

Abstract

Aim: To assess epidemiological, anthropometric and dietary factors leading to reflux symptoms in general population

Materials and Methods: The study was done among OPD patients between August to October 2015.All patients with regurgitation and/or heartburn and who were willing for anthropometric and dietary assessment were included. A total of 142 patients formed the study group. Severity of GERD was graded as per frequency of symptoms (0- no symptoms; 1-mild, < 2days/week; 2-moderate, 2-4 days/week; 3-severe, >4 days/week). Socioeconomic status was assessed using Kuppuswamy's scoring. The data collected was analyzed using appropriate statistical tests.

Results: 142 patients (mean age 34.24 years, male:female 2:1) formed the study group. Majority of them belonged to Kuppuswamy grade 2 and 3.The severity of GERD was as follows- grade 0 (4), grade 1(32), grade 2 (70) and grade 3(36). Majority of patients had sedentary to moderate activity. Seventy eight patients had vegetarian diet and 68 patients consumed more than three cups of tea per day. Other risk factors for GER were- consumption of fried food, refined food, spicy food, prolonged fasting, lying down within 30 minutes of food intakeand rapid eating. Response to lifestyle changes and drug therapy was better in obese patients than patients with BMI< 23 kg/sq.m at end of 2 months.

Conclusion: GERD symptoms are common in middle age and in males. Higher BMI is associated with better response to treatment. Lack of exercise, rapid eating, fried and refined foods, lying down after meals and prolonged fasting are the major risk factors for GERD.

Introduction

Gastroesophageal reflux (GER) is a normal physiologic phenomenon experienced intermittently by most people, particularly after a meal and occurs when there is refluxate of gastric juice into the esophagus that exceeds the normal limit, causing symptoms and / or mucosal injury. By Montreal definition, GERD is defined as reflux of stomach contents causing troublesome symptoms and/or complications [1]. Typical symptoms of GER include heartburn, regurgitation, a combination of the two and dysphagia. The Montreal Working Group defines heartburn as mild if troublesome symptoms of heartburn occur on 2 or more days in a week and moderate to severe when they occur on more than one day a week [1]. Based on 28 studies [2] GERD prevalence based on Montreal classification varies greatly in different ethnic populations. In the USA it is estimated to be 18.1 to 27.8 %, 8.8 to 25.9 % in Europe, and 2.5–7.8 % in East Asia.

The prevalence of GERD in central India and risk factors for the same have not been studied in detail. The present study was undertaken to determine the epidemiological, anthropometric and dietary factors leading to reflux disease in our setting.

Materials and Methods

The study was done among OPD patients between August to October 2015. All patients with regurgitation and/or heartburn for atleast 2 weeks in the last one year and who were willing for anthropometric and dietary assessment were included. Pregnant females, those below 18 years of age and post fundoplication patients were excluded. Complete dietary history, examination findings and response to treatment were recorded in a pre designed proforma. Severity of GERD was graded as per frequency of symptoms (0- no symptoms; 1-mild, < 2days/week; 2-moderate ,2-4 days/week; 3-severe, >4 days/week). Socioeconomic status was assessed using Kuppuswamy's scoring.

Detailed dietary assessment was done by a dietician using dietary recall method. **Rapid eating** was defined as finishing a major meal in less than 10 minutes. **Prolonged fasting** was defined as atleast 2 major fasts in a week or a time period of 8 hours or more between two meals. **Lying down early** was defined as lying down within 30 minutes of a major meal Assessment of fried food, spicy food and refined foods was done using dietary recall method.

Endoscopic examination and /or manometry, pH recording was not mandatory and thus was done only in selected patients.However, the results of such tests were not included in final interpretation.Response to drugs was judged on a scale of 1-10 (mean percieved improvement score) based on patient's history at the end of two weeks of therapy with PPI and/or prokinetics.

The percentages for all risk factors were noted. Mean percieved improved to treatment was analysed and compared using student's t test. P value <0.05 was considered significant.

Results

A total of 563 patients attended OPD services during the study period.One hundred and eighty three patients had reflux symptoms and 142 agreed to participate in the study. Thus, the prevalence of reflux symptoms in patients attending OPD services was 33.2 %.

The mean age was 34.24 years (range 12-76 years) and male to female ratio was 2:1.Majority of the patients (90%) belonged to Kuppuswamy class 2 and 3. Eighty four (59.2%) patients had BMI > 23 kg/sq.m and twenty eight patients (19.7%) had BMI <18 kg/sq.m. Ten patients (7%) had hypertension, four (2.8%) had hypothyroidism and 2(1.4%) had psychoses. Alcohol and tobacco abuse were seen in 30(21.1%) and 20 (14%) patients respectively.

The severity of GERD was as follows- grade 0(4,2.8%), grade 1(32,22.5%), grade2(70,49.3%) and grade 3(36,25.3%). Majority (76%) of patients had sedentary to moderate activity. Seventy eight (55%) patients had vegetarian diet and 68 patients(47.8%) consumed more than three cups of tea per day. Other risk factors for GER were- fried food (102,71.8%), refined food (108,76%), spicy food(68,47.8%), prolonged fasting(94,66.2%) , lying down within 30 minutes of food intake(64,45.1%) and rapid eating(52,36.6%)).

Response to lifestyle changes and drug therapy was better in obese patients (mean perceived improvement 6.33 points) than patients with BMI< 23 kg/sq.m(mean perceived improvement 3.56 points) at end of 2 months.(p<0.05)

Discussion

The present study was done in general OPD patients at a tertiary referral centre in India. The prevalence of reflux symptoms in OPD patients was 33.2%. Indian Society of Gastroenterology task force has reported a prevalence of 8-19% in general population and a weekly prevalence of 7.6%. [3]

The mean age of our patients was 34.24 years and males outnumbered the females. Alcohol and tobacco

consumption was reported in thirty and twenty patients respectively. Three-fifths of our patients had a BMI> 23 kg/sq.m .A small number of patients had hypertension, hypothyroidism and psychoses . P.K.Sharma et al have reported that higher BMI, current smoking, presence of asthma or hypertension predisposes to GERD.[4]

Most of the patients had grade 2 or 3 reflux disease. Most of them had a sedentary lifestyle and more than half were vegeterians. Nearly half the patients reported to consume more than 3 cups of tea in a day. Sushil kumar et al reported that younger age, sedentary life style, serum LDL>150, high intake of meat, low consumption of fresh fruits and salted tea were risk factors for GERD at high altitude.[5] In a study from Chennai among pregnant females, non vegetarian diet and aerted drinks were found to be the major predisposing factors for GERD.[6]

Patients with a higher BMI reported a better response to treatment than patients with a BMI of less than 23. This has been noted in a few other studies as well that obese patients respond better to drug therapy and life style changes in GERD. The exact reason for this finding is unknown. [7,8]

The present study shows that reflux disease is a major cause of consultation in our practice. The study has extensively analyses the epidemiological trends and dietary factors responsible for GERD in our practice.

To conclude, reflux symptoms are a major cause of OPD consultation in our practice. GERD symptoms are common in middle age and in males. Higher BMI is associated with better response to treatment. Lack of exercise, rapid eating, fried and refined foods, lying down early after meals and prolonged fasting are the major risk factors for GERD.

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