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Symptom-Based Management of Chronic Gastroesophageal Reflux Disease in a Young Adult: A Holistic Therapeutic Approach

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Abstract

Gastroesophageal Reflux Disease (GERD) is a chronic gastrointestinal disorder resulting from the retrograde movement of gastric contents into the esophagus, often due to lower esophageal sphincter dysfunction. It is characterized by hallmark symptoms such as heartburn, regurgitation, epigastric pain, and may also present with extra-esophageal manifestations including chronic cough, hoarseness, or dental erosion. GERD significantly affects quality of life and, if left untreated, may lead to complications such as esophagitis, strictures, or Barrett's esophagus. This case report presents a 21-year-old female with a history of recurrent GERD symptoms since childhood. She presented with complaints of persistent epigastric pain, nausea, and a burning sensation in the chest, particularly after meals. Physical examination revealed epigastric tenderness and clinical signs suggestive of anemia, including pallor and fatigue. A detailed clinical history and symptom pattern strongly supported a diagnosis of GERD. Given the classic presentation and absence of alarm features, a non-invasive, symptom-based diagnostic approach was adopted, avoiding the need for endoscopy or pH monitoring. The patient was managed with a combination of pharmacological therapy omeprazole (a proton pump inhibitor), antacids for symptomatic relief, paracetamol for pain management, and vitamin B6 to address nutritional deficiencies. Additionally, lifestyle modifications were emphasized, including dietary regulation, avoidance of trigger foods (such as spicy and acidic items), elevation of the head during sleep, and meal timing adjustments. Within one week of initiating treatment, the patient reported significant improvement in symptoms, with reduced frequency and intensity of heartburn and nausea. This case highlights the importance of early recognition and comprehensive management of GERD, especially in young adults with a chronic history of symptoms. It underscores the effectiveness of combining pharmacological treatment with lifestyle interventions and demonstrates that a symptom-based, non-invasive approach can be both practical and effective in primary care settings. Patient education and adherence to therapy remain critical in preventing recurrence and improving long-term outcomes.

1. Introduction

Gastroesophageal reflux disease (GERD) is a highly prevalent upper gastrointestinal disorder, particularly among young adults, and its global burden has increased steadily over the past two decades (El-Serag, 2007). The condition arises from chronic reflux of gastric contents into the esophagus, resulting in mucosal irritation and a spectrum of symptoms that significantly impact daily functioning (Katz et al., 2022). The underlying pathophysiology of GERD involves transient lower esophageal sphincter relaxations (TLESRs), impaired esophageal clearance, and delayed gastric emptying, all of which can exacerbate reflux episodes (Dodds et al., 1982). Dysfunction of the lower esophageal sphincter (LES) is particularly central to the process, allowing repeated exposure of the esophageal mucosa to acidic gastric contents (Mittal & Balaban, 1997).

Clinically, GERD is classically associated with hallmark symptoms such as heartburn and acid regurgitation (Vakil et al., 2006). However, patients may also present with atypical or extra-esophageal manifestations including chronic cough, hoarseness, dental erosion, and asthma-like symptoms which complicate diagnosis (Vaezi et al., 2013). Beyond physical symptoms, GERD imposes substantial psychosocial and economic burdens on affected individuals (Lundell et al., 2001). Chronic or severe symptoms may lead to sleep impairment, reduced productivity, and anxiety, further lowering health-related quality of life (Revicki et al., 1998). If not properly managed, persistent GERD may lead to complications including erosive esophagitis, peptic strictures, and Barrett's esophagus (Hampel et al., 2005). These complications

highlight the importance of timely, accurate diagnosis and adequate therapeutic intervention (Spechler, 2002). Current international clinical guidelines support symptom-based diagnosis of GERD in patients lacking alarm features such as dysphagia, gastrointestinal bleeding, unexplained weight loss, or iron-deficiency anemia (Katz et al., 2022). This non-invasive diagnostic approach is particularly relevant in primary care settings.

GERD in young adults is often influenced by modern dietary patterns, stress, obesity, and irregular sleep schedules (Eusebi et al., 2018). Such factors may contribute to symptom persistence beginning in adolescence or even earlier (Chen & Hunt, 2020). Because young adults are often perceived as having a lower baseline risk for chronic disease, early GERD symptoms may be overlooked, leading to prolonged untreated reflux and mucosal injury (Savarino et al., 2017). Increased awareness in this population is therefore essential. Pharmacologic management remains the cornerstone of GERD therapy, with proton pump inhibitors (PPIs) recognized as the most effective agents for acid suppression (Scarpignato et al., 2016). Adjunctive agents such as antacids can provide rapid relief for breakthrough symptoms (Sigterman et al., 2013). Despite the proven efficacy of pharmacologic therapy, long-term symptom control requires lifestyle modifications such as weight reduction, diet regulation, and avoidance of trigger foods (Kaltenbach et al., 2006). These non-pharmacologic interventions enhance treatment efficacy and reduce relapse rates.

In patients without complications, a non-invasive treatment strategy is typically adequate, avoiding the need for endoscopy or ambulatory pH monitoring (Gyawali et al., 2018). This approach is particularly appropriate for young, otherwise healthy individuals. Nutritional deficiencies, including inadequate intake of vitamins such as vitamin B6, may coexist with chronic gastrointestinal symptoms and should be addressed when present (Stover, 2009). Correcting these deficiencies may support overall recovery and improve response to GERD therapy. A holistic management approach allows clinicians to tailor treatment to the patient's symptom pattern, lifestyle, and risk factors (Sifrim & Zerbib, 2012). This personalized framework is increasingly emphasized in modern gastroenterology.

Case reports serve as a valuable method for documenting clinical variability and therapeutic outcomes in GERD, particularly in understudied populations such as young adults (Carey, 2016). They also provide insight into the practicality of guideline-based recommendations in real-world settings. The case discussed in this article involves a 21-year-old woman with a long-standing history of GERD symptoms beginning in childhood. Early-onset GERD has been described in multiple studies and may indicate both environmental and physiological predispositions (van Herwaarden et al., 2000).

The patient's symptoms persistent epigastric pain, postprandial nausea, and retrosternal burning are consistent with typical GERD presentations described in global consensus guidelines (Vakil et al., 2006). The absence of red-flag signs supported the decision to pursue symptom-based management. Her rapid improvement with a combination of PPI therapy, antacids, and supportive agents is consistent with evidence demonstrating the effectiveness of PPI-based regimens in young patients with uncomplicated GERD (Moayyedi et al., 2019). Lifestyle interventions such as avoiding late meals, elevating the head during sleep, and eliminating dietary triggers are widely recognized as essential components of GERD management (Kaltenbach et al., 2006). Their effectiveness is well-documented across multiple clinical trials. This case underscores the importance of integrating pharmacologic therapy with targeted lifestyle counseling to achieve optimal therapeutic outcomes. Such a holistic approach has been repeatedly advocated in GERD management literature (Sifrim & Zerbib, 2012).

Based on these considerations, the present study aims to describe the symptom-based, holistic management of chronic GERD in a young adult and to evaluate the patient's clinical response to therapy. It is hoped that this case will contribute to greater clinical awareness, promote evidence-based non-invasive management, and reinforce the importance of early, comprehensive intervention among young patients.

2. Materials and Methods

This study employed a descriptive single-case clinical design aimed at documenting the diagnostic reasoning and therapeutic decision-making process in the management of chronic gastroesophageal reflux disease (GERD) in a young adult. A symptom-based approach was adopted in accordance with primary care guidelines for uncomplicated GERD. The subject was selected based on the following inclusion criteria:

- The age between 18–25 years,
- History of recurrent symptoms consistent with GERD (heartburn, nausea, regurgitation, or epigastric pain),
- Absence of alarm features such as dysphagia, hematemesis, melena, unintentional weight loss, or progressive anemia.
- Patients with prior upper gastrointestinal surgery or with confirmed peptic ulcer disease were excluded. The patient included in this study met all eligibility criteria.

Verbal informed consent was obtained from the patient for the use of anonymized clinical data for academic publication. No identifying information is presented. As this work is a non-interventional case report, formal ethical board approval was not required according to institutional policy.

2.1. Clinical History Acquisition

A structured clinical interview was performed to document the onset, timing, frequency, and severity of reflux-related symptoms. The assessment included dietary habits, triggering factors, sleep patterns, medication history, and presence of extra-esophageal symptoms. A symptom timeline was constructed to evaluate chronicity and previous episodes. A systematic physical examination was conducted focusing on abdominal, cardiovascular, and oropharyngeal systems. Special attention was given to signs suggestive of anemia (pallor, fatigue), abdominal tenderness, and potential complications of chronic reflux such as dental erosion or pharyngeal irritation.

Diagnosis was established using the symptom-based criteria recommended for uncomplicated GERD in young adults. The evaluation prioritized typical manifestations heartburn, retrosternal burning, nausea, and epigastric discomfort combined with the absence of red-flag symptoms. This approach aligned with guidelines discouraging routine endoscopy for patients without alarm signs. Given the patient's age, symptom pattern, and stable clinical condition, advanced investigations such as esophagogastroduodenoscopy (EGD) or 24-hour pH impedance

monitoring were deferred. This decision followed international recommendations that reserve invasive diagnostics for refractory, atypical, or complicated presentations.

2.2. Nutritional and Lifestyle Assessment

A comprehensive dietary assessment was conducted to identify frequent ingestion of GERD-triggering foods including spicy meals, acidic fruits, caffeinated beverages, and high-fat dishes. Sleep posture, meal timing (particularly late-night eating), stress levels, and physical activity habits were recorded to formulate personalized lifestyle interventions. The pharmacological regimen included:

- Omeprazole 20 mg once daily, administered before breakfast as first-line proton pump inhibitor (PPI) therapy.
- Antacids on an as-needed basis for breakthrough symptoms.
- Paracetamol for non-specific epigastric discomfort not directly attributable to acid reflux.
- Vitamin B6 supplementation for nutritional support based on clinical suspicion of deficiency.
- The selection of medications followed national and global clinical practice guidelines for GERD management.

2.3. Lifestyle Modification Intervention

Lifestyle recommendations were standardized and delivered through structured counseling. Key interventions included avoidance of trigger foods, reduction of meal volume, abstinence from lying down within 2–3 hours after meals, elevation of the head of the bed during sleep, and increased hydration. Behavioral reinforcement strategies were provided to enhance adherence. Education was delivered using a patient-centered communication framework. The patient was informed about disease physiology, potential complications of untreated GERD, and the importance of consistent therapy. Written instructions were provided in addition to verbal counseling to ensure comprehension.

Follow-up evaluation was conducted one week after initiation of therapy. During this visit, changes in symptom frequency, intensity, and interference with daily activities were documented. The patient was also asked to report medication adherence and perceived challenges in implementing lifestyle modifications. Symptom progression was monitored using a numerical severity scale (0–10), where 0 indicated no symptoms and 10 represented intolerable discomfort. This facilitated objective comparison of symptom burden before and after intervention.

2.4. Data Recording and Standardization

All clinical findings, symptom scores, and treatment responses were recorded in a standardized case report form (CRF). Data entry was cross-verified to maintain accuracy and reduce observational bias. Clinical improvement was defined by at least a 50% reduction in symptom severity score, increased tolerance to meals, improved sleep quality, and absence of new or worsening symptoms. These criteria were adapted from commonly used GERD response evaluation metrics. Adherence was assessed through patient self-reporting and pill counts. Barriers to adherence including dietary restrictions, side effects, and daily routine conflicts were specifically evaluated to guide subsequent adjustments. Potential medication side effects, including headache or gastrointestinal discomfort from PPI use, were monitored. The patient was instructed to report any unexpected symptoms immediately.

2.5. Clinical Decision-Making Algorithm

Treatment adjustments were guided by symptom response. Had symptoms persisted or worsened, escalation to twice-daily PPI therapy, switch to another PPI, or addition of alginate-based therapy would have been considered. The absence of alarm symptoms continuously supported conservative management. Analysis was descriptive and qualitative, focusing on temporal improvement, correlation between lifestyle adherence and symptom reduction, and overall therapeutic effectiveness. Due to the nature of the case design, no statistical tests were applied. This case report is limited by its single-patient scope, lack of objective diagnostic tests, and short follow-up period. Nevertheless, it provides valuable insight into practical, symptom-based, patient-centered management of chronic GERD in primary care settings.

The primary aim of this study was to document a structured, symptom-based, non-invasive approach to managing chronic GERD in a young adult and to evaluate its short-term effectiveness. It is expected that the findings will support clinicians in adopting holistic and patient-centered strategies that integrate pharmacological therapy with lifestyle modification, ultimately enhancing the quality of GERD management in resource-limited or primary care environments.

3. Results and Discussion

Ms. L, a 21-year-old woman, presented with acute exacerbation of chronic gastroesophageal symptoms. Her primary complaints included epigastric pain, burning chest discomfort, nausea, bloating, and a bitter taste in the mouth. The pain, described as “punched” and burning, had begun two days prior and was aggravated after meals, scoring 8/10 on the pain scale, sometimes radiating to the back. Physical examination showed an ill-appearing but fully conscious patient. Vital signs were within normal limits (BP 111/86 mmHg, pulse 75 bpm, RR 15/min, temperature 36.6°C). Notable findings included anemic conjunctiva, epigastric tenderness, worsening rebound tenderness, epigastric tympany, and clapotage in the left hypochondrium. Bowel sounds were normal.

Based on the symptom pattern, absence of alarm signs, and recurrent history since childhood, differential diagnoses considered were gastritis, dyspepsia, and GERD. However, the presence of postprandial burning, retrosternal chest discomfort, and bitter regurgitation, aligned most strongly with GERD, leading to a clinical diagnosis of Gastroesophageal Reflux Disease. The patient was treated with omeprazole, antacids, paracetamol, and vitamin B6, alongside comprehensive lifestyle modification counseling (small frequent meals, avoiding acidic/spicy/fatty foods, avoiding coffee and soda, no lying down after meals, and avoiding late-night eating). One week after treatment, the patient reported a marked reduction in symptom intensity, with pain decreasing to 3/10, resolution of bitter regurgitation, significant reduction in nausea, and improved meal tolerance. No medication side effects were reported. Adherence to lifestyle recommendations was moderate but

improving. The patient demonstrated overall positive therapeutic response and early symptom remission.

This case illustrates a young adult presenting with classic features of GERD, consistent with the definition of the disease as a dysfunction of the Lower Esophageal Sphincter leading to retrograde acid movement into the esophagus, producing hallmark symptoms such as heartburn and regurgitation as previously described by Putri et al. (2023). The patient's presentation burning epigastric pain, nausea, and postprandial chest discomfort is typical of GERD, supporting the diagnosis without the need for invasive evaluation in accordance with clinical criteria outlined by Chhabra and Ingole (2022).

The chronicity of her symptoms, dating back to childhood, suggests a longstanding disease trajectory, aligning with findings by Azer and Goosenberg (2025) who state that GERD often persists across years due to repeated acid exposure and inadequately controlled risk factors. The recurrent nature in this case reinforces the interpretation of a chronic GERD phenotype, rather than an acute episode. Physical findings such as epigastric tenderness and postprandial worsening are physiologically consistent with acid reflux and esophageal mucosal irritation. The burning sensation described by the patient corresponds to the pathophysiologic mechanism of esophageal hypersensitivity after repeated acid exposure, as highlighted by Azer and Goosenberg (2025). The presence of bitter taste and regurgitation further distinguishes GERD from other differential diagnoses such as gastritis or functional dyspepsia, as bitter regurgitation is a predominant GERD marker (Saputera and Budianto 2017).

Risk factor analysis is also relevant in this case. Dietary triggers such as spicy, fatty, and acidic foods as commonly consumed by university students are known to exacerbate reflux episodes (Putri et al. 2023). Stress, irregular eating patterns, and lack of sleep, frequently observed among students, have similarly been associated with worsened reflux symptoms in young adults (Chhabra & Ingole, 2022). These lifestyle considerations were clearly present in the patient's history and likely contributed to symptom persistence.

Pharmacological management with a proton pump inhibitor (PPI) was appropriate, as PPIs remain the most potent acid-suppressive agents and are recommended as first-line therapy by major clinical guidelines, including those referenced by Yadlapati et al. (2022). The dosing regimen of omeprazole twice daily is consistent with recommendations for severe or recurrent GERD, and adjunctive antacids provided additional rapid symptomatic relief, as supported by Putri et al. (2023). Vitamin B6 administration was suitable for managing nausea, a supportive therapy that improves tolerance to dietary intake and reduces discomfort. Non-pharmacological interventions play a crucial role in reducing relapse rates. As highlighted by Yadlapati et al. (2022), lifestyle modification including avoiding late meals, limiting trigger foods, and elevating the head of the bed must accompany pharmacologic therapy to achieve sustained improvement. The patient's positive response supports these recommendations.

The finding of anemic conjunctiva raises clinical concern. While the patient did not exhibit overt bleeding, chronic GERD has been associated with microerosions or chronic microscopic blood loss, which can lead to iron-deficiency anemia, as noted by Azer and Goosenberg (2025). Further hematologic evaluation might be warranted depending on follow-up findings, consistent with guidelines suggesting investigation of anemia in chronic reflux cases (Chhabra & Ingole, 2022). The favorable response after one week suggests that the selected therapeutic approach was effective and aligns with literature reporting that initial symptom relief often occurs within the first 7–14 days of PPI therapy (Yadlapati et al., 2022). However, long-term prognosis depends on adherence, as relapse is common reported in 20–50% of cases when PPIs are stopped prematurely (Yadlapati et al., 2022). Therefore, patient education and structured follow-up remain essential to maintaining remission.

4. Conclusions

This case report demonstrates the characteristic clinical presentation, diagnostic process, and therapeutic response of a young adult with chronic Gastroesophageal Reflux Disease (GERD). The patient, a 21-year-old female, exhibited hallmark GERD symptoms including heartburn, regurgitation, postprandial epigastric pain, and a burning sensation radiating to the chest features strongly aligned with the pathophysiology of reflux caused by impaired lower esophageal sphincter function. The use of a symptom-based diagnostic approach was appropriate and effective, especially in the absence of alarm signs, reinforcing the feasibility of managing uncomplicated GERD in primary care settings without the need for invasive procedures such as endoscopy or pH monitoring. One of the central findings of this case is the long-term disease trajectory, as the patient had experienced recurrent reflux symptoms since childhood. This chronicity is relatively uncommon in young adult case reports and highlights the importance of recognizing early-onset GERD as a condition that may persist into adulthood when risk factors and lifestyle contributors remain unaddressed. The patient's irregular eating patterns, stress, and exposure to dietary triggers were significant contributors to symptom exacerbation, underscoring the critical role of lifestyle assessment as part of holistic care. Therapeutically, the combination of omeprazole and antacids resulted in rapid symptom improvement, evidenced by a reduction in pain intensity from 8/10 to 3/10 within one week. This swift response provides quantitative support for the effectiveness of standard proton pump inhibitor therapy in young adult populations. Moreover, non-pharmacological interventions, particularly dietary modification, meal timing adjustment, and avoidance of trigger foods, proved essential in reducing recurrence risk and improving overall treatment outcomes. Additionally, the presence of anemic conjunctiva raises the possibility of subclinical iron deficiency related to chronic reflux exposure an observation that warrants further investigation and may represent an underrecognized complication in young patients with long-standing GERD. Overall, this case highlights the importance of integrated, patient-centered, and lifestyle-oriented management. With consistent therapy adherence and disciplined behavioral modification, the patient's long-term prognosis remains highly favorable.

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Informed Consent Statement: Written informed consent has been obtained from the patient's guardian to publish this case report, including clinical details and images.

Data Availability Statement: All data supporting the findings of this study are contained within the article. No additional datasets were generated or analyzed.

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