

Management of the Postmenopausal Woman Experiencing GERD Symptoms

Mary Infantino, PhD, APRN-BC

Gastroesophageal reflux disease (GERD) affects up to 20% of the adult population on a weekly basis.¹ GERD is a condition characterized by acid reflux and heartburn or indigestion.² It is a condition that indicates the presence of ongoing esophageal damage from gastric contents and can lead to esophagitis, Barrett's esophagus and esophageal carcinoma.

Acid reflux and dyspepsia are the predominant symptoms of GERD (and are usually used for empiric diagnosis and treatment) but symptoms can include, laryngitis, odynophagia, chronic cough, globus sensation, asthma and chest pain.³⁻⁵ While, to date, most GERD research has been conducted on men, research on GERD symptoms in women suggests that they may experience GERD symptoms differently than do men; specifically, women may experience the atypical symptoms of GERD, such as coughing, wheezing, hoarseness, belching and, in some cases, choking. It has been suggested that gender differences in clinical presentation may be hormonal.^{2,6-8}

GERD and Hormones

While, to date, the effects of reproductive hormones on the gastrointestinal (GI) system are not well known, many healthcare practitioners believe that GI and other disorders (ie, migraines, asthma, epilepsy) can be attributed to fluctuations in hormones.⁹ Animal studies have demonstrated that estrogen and progesterone do seem to modulate contractile function of the GI tract.^{10,11} Heitkemper found that as estrogen and progesterone decrease, the acid mucin content in the GI tract changes.¹¹ Mucin

acts as a protective barrier to physical and enzymatic assaults on the mucosa; GI symptoms can, therefore, be caused by variations in the mucin content within the mucosa, which may be directly related to variations in estrogen and progesterone levels.¹¹

Research exploring the relationship between fluctuating ovarian hormones and lower GI symptoms has demonstrated that such symptoms increase during menses, when levels of both estrogen and progesterone are dropping.^{10,12} In a meta-analysis of nine studies exploring GI symptoms and

their relationship to the menstrual cycle, researchers found that one-third of asymptomatic women experienced GI symptoms at the time of menses, when reproductive hormone levels are lowest.¹³ Some authors, however, assert that lower esophageal sphincter pressure (LESP) and delayed gastric emptying are affected by increasing estrogen and progesterone, as evidenced by the increase in GERD symptoms during pregnancy (affecting 70% of pregnant women) and by an increase in LESP in women taking combination **oral contraceptives**.^{6-8,14} Jacobson et al echoed these findings in a prospective cohort study of 51,637 postmenopausal women, finding that women using hormone replacement therapy, selective estrogen-receptor modulators or over-the-counter (OTC) hormone preparations had a greater likelihood of having GERD symptoms.¹⁵

To date, much of the research exploring GI symptoms across the menstrual cycle has focused on lower GI symptoms (irritable bowel syndrome, functional bowel disease) and on menstruating women. Some of the research does, however, seem to support the increasing likelihood of GERD symptoms as women age and become menopausal, suggesting an association between declining hormones and GERD.¹⁶ But because these symptoms have not been adequately described

or analyzed in the postmenopausal population, no conclusions can be made about a direct relationship between symptoms and hormone levels. In a more recent study involving 497 peri- and postmenopausal women, postmenopausal women were 2.9 times more likely to develop GERD symptoms than were their premenopausal counterparts.¹⁶ Other risk factors were, however, identified in the study and also have been identified elsewhere in the literature (Table 1).^{9,17,18}

GERD and BMI

Of these risk factors, increasing body mass index (BMI), particularly overweight or obesity, seems to have the most significant association with the development and worsening of GERD symptoms,^{3,18,19} and the association is stronger for women than for men. Although the reason for this is unknown, a hormonal cause has been suggested.^{17,18} Nilsson and colleagues found a 15-fold increase in GERD symptoms among women with a BMI >30.¹⁷ Interestingly, the development of GERD symptoms seemed to be unrelated to fat distribution in the body.¹⁹ Central adiposity (the redistribution of adipose tissue around the core of the body) is a well-known and normal part of aging, and increases the risk for many diseases processes.^{20,21} One would think that GERD would be one such disease

process, but this does not seem to be the case. Instead, GERD symptoms occur regardless of how fat is distributed in the body.

Some authors believe the development of GERD symptoms in obese women may be related to the in-

will see more postmenopausal women than ever before. Given that obesity in women has doubled in the last 20 years, and that menopause has been identified as a high-risk **time period** for weight gain,^{1,24} it can be predicted that the numbers of women com-

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creased mechanical pressure in the esophageal area^{18,19} while others believe this is a gender-specific association in obese women linked to decreased levels of sex hormone-binding globulin and/or increased adipose synthesis of estrogen resulting in increased active circulating estrogen. High levels of circulating estrogen in postmenopausal women have been associated with increased production of nitric oxide, an important smooth muscle relaxer of the LES, the primary pathological feature of GERD.^{6,17,21,22} This, again, suggests a hormonal link.

GERD: The Impact

In 2002, Sandler et al reported that GERD was the mostly costly GI disease in the US (63% attributable to pharmacologic therapy).²³ Over the next few decades healthcare providers

plaining of GERD symptoms in clinical practices will also increase—this is in addition to the women with normal BMIs who may experience GERD symptoms. Although the GI symptoms these women suffer may **not be life-threatening**, they do impact quality of life by limiting functional activities and enjoyment of life.

GERD is often underdiagnosed or misdiagnosed in this population, perhaps because of the atypical clinical presentations.¹⁶ Not only do women present with both typical and atypical symptoms, but these symptoms sometimes worsen nocturnally, interfering with sleep patterns.¹⁶

Screening and Diagnosis

GERD is a multi-factorial condition that requires a holistic approach in order to identify risk factors, determine etiology (or etiologies) and establish the appropriate course of management for each patient. Postmenopausal women should be screened for GERD symptoms regularly. A thorough history should elicit information about the following:

- Complete symptomology of GI complaints and what patients are doing to help control those symptoms,
- Family history of GI problems,
- Dietary habits,

Table 1. Risk Factors for GERD

- Increasing **Body Mass Index**
- High-caloric, high-fat diet; acidic foods including spicy foods and carbonated beverages; caffeine; individual gastric irritants such as chocolate or wine
- NSAID use
- Alcohol use (7 or more drinks weekly)
- Cigarette smoking
- Other family members with GI problems

Table 2. Alarm Features of GERD

Signs/Symptoms	Suggested Time to Endoscopy
Acute onset anemia	Within 7 - 10 days
Acute onset severe dysphagia	Within 1 day
Hematemesis	Within 1 day
Melena	Within 1 day
Persistent vomiting for > 7 - 10 days	Within 7 - 10 days
Involuntary weight loss >5% (7 - 10 days)	Within 7 - 10 days

- Alcohol intake,
- Smoking,
- Weight changes, and
- Medication **history**, including NSAID use.

Practitioners, especially those caring for postmenopausal women, need to recognize the atypical symptoms of GERD as well as “alarm features” that may signal a life-threatening condition and require immediate endoscopy (Table 2).^{5,25} While diagnosis can usually be made empirically based on clinical presentation, the presence of such alarm features indicates the need to make a definitive diagnosis without delay (Table 2).

Many practitioners consider endoscopy and 24-hour gastric pH testing as the diagnostic gold standard,^{5,25,26} but these may fail to diagnose GERD in women presenting with extra-esophageal or atypical reflux symptoms such as cough or laryngitis. The role of *Helicobacter pylori* testing is controversial but may be useful. If a patient is positive for *H pylori*, treatment with the lansoprazole-amoxicillin-clarithromycin combination agent Prevpac (1 tablet 2 times/day x 14 days) will effectively treat the *H pylori* infection but may not relieve the GERD symptoms. Improvement may be seen in cases in

which the patient has a hypersecretory gastric pattern.²⁵⁻²⁷

Pharmacologic Management

A short-term course of acid-suppressing drugs, proton pump inhibitors (PPIs) or histamine₂ receptor antagonists (H₂ blockers) is the standard of care for pharmacologic management of **symptomatic GERD**.^{5,26-28} Evidence-based literature suggests that PPIs are more effective in providing relief of symptoms than are H₂ blockers for short-term therapy. H₂ blockers may, however, be preferable

to PPIs in cases in which the patient is experiencing side effects from a PPI, such as headache, altered elimination patterns and abdominal discomfort. These side effects also may be relieved by simply switching to a different agent in the same class of medications or by lowering the dose if doing so continues to provide relief.⁵ The role of rapid-acting OTC antacids is also important for patients who intend to take medication only when they experience symptoms. Table 3 shows commonly prescribed pharmacologic agents for the management of GERD, along with recommended initial treatment **regimens**.^{5,26-29}

When patients do not respond to once-daily PPIs within a short time (3-5 days of initiating treatment) frequency should be increased to twice-daily, which is considered the upper limit for empirical therapy. Treatment is considered to have failed if patients do not experience symptom relief with twice-daily dosing, and such patients should be referred for endoscopy.²⁷

Patients who experience symptom relief after initial therapy should un-

Table 3. Pharmacologic Agents for the Treatment of GERD

Generic Agent	Brand Name	Type	Dosage	Duration
Rabeprazole	Aciphex	PPI*	20 mg QD	4-8 weeks
Esomeprazole	Nexium	PPI	20 mg QD	4-8 weeks
Lansoprazole	Prevacid	PPI	15 mg QD	8 weeks
Omeprazole	Prilosec	PPI	20 mg QD	2-4 weeks
Pantoprazole	Protonix	PPI	40 mg QD	7-10 days
Famotidine	Pepcid	H ₂ blocker	20 mg BID	6 weeks
Cimetidine	Tagamet	H ₂ blocker	800 mg BID	12 weeks
Ranitidine	Zantac	H ₂ blocker	150 mg BID	6 weeks
Nizatidine	Axid	H ₂ blocker	150 mg BID	12 weeks

*PPI=proton pump inhibitor

dergo a step-down therapy trial in which the regimen is adjusted; the medications are gradually reduced, changed from prescription and OTC anti-secretory medications to rapid-acting antacids, and then discontinued as tolerated.⁵ Patients often experience “break-through” or relapse of symptoms during this step-down period. Relapse of symptoms usually dictates the maintenance therapy necessary for ongoing relief;²⁶ relapses that occur within 3 months of beginning the step-down trial are best managed with a continuous standard dose of PPIs, and patients who remain asymptomatic for longer periods of time are best managed with intermittent or repeated courses of acute PPI therapy on an as-needed basis.^{5,26,27} Empirical treatment of patients experiencing extra-esophageal GERD symptoms (twice-daily dosing with a PPI for 3-4 months) has become a common but unvalidated practice.²⁷

Lifestyle Modifications

Lifestyle modifications are aimed at reducing the incidence of GERD symptoms (Table 4). The growing body of evidence suggesting that increasing BMI and obesity are a cause of GERD symptoms warrants a closer look at the patient’s lifestyle. Achieving and maintaining a healthy BMI is paramount, not only to reducing damage from GERD symptoms but also to reducing the risk for other disorders, such as diabetes, hypertension and cardiac diseases. Jacobsen et al found that women who decreased their BMIs by ≥ 3.5 reduced their GERD symptom frequency by 40%.¹⁹

Postmenopausal women may need to make lasting dietary changes and engage in a regular exercise program in order to attain this goal. Having a patient return with a 3-day dietary and GERD symptom history is helpful in evaluating both her diet and her

Table 4. Lifestyle Interventions

- Dietary modifications (avoid large meals; avoid late meals)
- Avoid lying down after meals for 2-3 hours
- **Weight loss**
- **Smoking cessation**
- Sleep with head of bed elevated 6-8 inches
- Avoid tight-fitting clothing
- Restrict alcohol intake
- Use chewing gum or lozenges
- Avoid NSAID use

symptoms. In general, patients should avoid “reflux-inducing” foods (high-fat, chocolate, peppermint and spearmint, citrus juices, caffeine [including soft drinks] and decaffeinated tea and coffee).^{5,26} They should avoid large or late meals as well as tight-fitting clothing, as these increase intra-abdominal pressure and put stress on the LES. Avoiding lying down for 2-3 hours after eating and elevating the head of the bed 6-8 inches also seems to decrease nocturnal symptoms. Patients should be encouraged to chew gum since this increases salivation and neutralizes refluxed acid.^{5,26} Referral to a nutritionist could also prove useful. If the patient is morbidly obese, referral to a bariatric specialist may be appropriate.

A smoking-cessation program may also need to be discussed with your patient. In addition to the known effects of smoking on health, smoking decreases salivation which, as stated above, can neutralize refluxed acid.²⁶ This can be challenging for patients who also need to lose weight since many patients believe they will eat more if they give up smoking. Prescribing Chantix or Zyban may be a useful adjunct to a smoking-cessation program.

A discussion of alcohol intake may also be necessary since alcohol is a well-known gastric irritant. Use of a screening tool, such as the CAGE questionnaire, can help you evaluate a patient’s alcohol consumption and the role it may play in her lifestyle.³⁰ Lastly, when collecting a medication history, keep in mind that certain medications, such as calcium channel blockers, theophylline and barbiturates, can lower LES pressure, causing or worsening symptoms. NSAIDs are also known to cause GERD symptoms. Patients may need to stop or switch to another agent depending on the problem.⁵

Summary and Conclusions

The prevalence of GERD in postmenopausal women is high and should be screened for regularly. Understanding your patient’s lifestyle choices as well as the risk factors and possible etiologies in the development of GERD symptoms is important to her long-term health and quality of life. Ultimately, the patient’s subjective report of symptom relief is usually predictive of success despite the treatment options chosen by the practitioner and patient.²⁴ However, it seems that maintenance of ideal body weight, without fluctuation, most accurately predicts development and worsening of GERD symptoms as well as symptoms of other disease processes. When ideal body weight is maintained, the patient will be healthier in all bodily systems. ■

Mary Infantino, PhD, APRN-BC, is an Adult Nurse Practitioner and Associate Professor of Nursing, C.W. Post Campus of Long Island University, Long Island, NY.

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