

ADVANCES IN GERD

Current Developments in the Management of Acid-Related GI Disorders

Section Editor: Joel E. Richter, MD

GERD in Minority Populations

Frank K. Friedenberg, MD, MS (Epi)
Professor of Medicine
Temple University Hospital
Philadelphia, Pennsylvania

G&H What have studies reported to date regarding the prevalence of gastroesophageal reflux disease in minority populations? Do these rates differ from the prevalence of this condition in the general population?

FF The prevalence of gastroesophageal reflux disease (GERD) in the black population appears to be 25–35%, which is similar to the prevalence of GERD in white populations, as reported by the Mayo Clinic, for example. Only a few comparative studies of GERD prevalence have been performed to date. A recent study by Yuen and colleagues included over 1,000 subjects presenting at local civic events in Philadelphia, Pennsylvania and found that 50% of Hispanic subjects experienced heartburn at least monthly, compared with 37% of white subjects and 31% of black subjects. In 2004, El-Serag and colleagues examined a convenience sample of hospital employees and found that the weekly rate of GERD symptoms was 27% in black subjects and 23% in white subjects. A study from Kaiser Permanente found that the prevalence of recent GERD (answered categorically as “yes/no”) was higher in black subjects than white subjects (16% vs 12%). Other studies have used endoscopic databases such as the Clinical Outcomes Research Initiative (CORI), which does not provide population-level data. Of note, there are no population-based studies describing the prevalence of GERD in African countries.

One limitation in comparing the true prevalence of GERD in differing populations, however, is the inconsistent definitions used for this condition.

G&H Why has there been limited research conducted to date evaluating minority populations with GERD?

FF Administrative databases are commonly used to ascertain population prevalence rates. Potentially biased disease rates may exist in black subjects due to relatively low rates of health insurance, access to medical care, and willingness/ability to participate in surveys. In a study my colleagues and I recently conducted, 75.2% of black subjects with GERD had insurance (primarily public assistance) and only 31.6% of these subjects with daily symptoms stated that they had discussed GERD with their doctor.

G&H Do you foresee an increase in research in this area in the future?

FF It will be interesting to see the effect that President Obama’s healthcare plan has on this issue. Currently, 25% of the black population in Philadelphia has no health insurance; presumably, these individuals will have some form of coverage beginning in 2014 under the new healthcare plan. Therefore, we may see increasing numbers of minority patients with reflux presenting to gastroenterologists and primary care physicians. As previously mentioned, studies based upon physician encounter data have noted a relative disparity in access to healthcare for black patients; thus, these studies have often included a low number of black subjects. This trend of underrepresentation may change if more black patients have access to healthcare.

G&H Has there been research examining risk factors in minority patients with GERD?

FF My colleagues and I recently conducted a cross-sectional study of 503 black subjects in the North Philadelphia community. We surveyed a convenience sample

of subjects at a local retail pharmacy and measured body weight, waist circumference, and height in order to calculate body mass index and waist-to-hip ratio. We queried numerous confounders, including dietary habits and use of alcohol and tobacco. In addition to active tobacco use, we found that an increasing waist circumference, rather than body mass index, was associated with reflux; this finding has also been found previously in primarily white populations. In previous studies, central obesity has been associated with Barrett esophagus in white populations; however, our study did not include endoscopy.

G&H Has there been any research conducted specifically on Hispanic patients with GERD?

FF There have been very little North American data on the prevalence and risk factors for GERD in Hispanic patients. This patient population will be an important area of research, as Hispanics comprise the fastest-growing segment of the US population.

Some data exist from South America and Spain. For example, a population-based study from Argentina assessed GERD in 1,000 residents. The overall prevalence of reflux experienced at least once in the previous year was 61.2%; less than once a month was 20.5%; approximately once a month was 16.8%; approximately once a week was 10.3%; several times a week was 9.6%; and daily was 3.1%. A Brazilian study that was conducted in 22 cities and enrolled 13,959 adults reported a prevalence of 11.9% for at least weekly GERD symptoms. In a population-based study, Diaz-Rubio and colleagues reported the prevalence of reflux symptoms in a representative sample population in Spain. Using a validated questionnaire, a telephone survey was performed in 2,500 subjects. The annual prevalence of reflux symptoms was 31.6%, and the rate of at least weekly symptoms was 9.8%. Obesity, higher psychosomatic symptom scores, and a family history of reflux symptoms were identified as risk factors.

G&H You recently received a National Institutes of Health grant to investigate GERD in black subjects. Could you discuss the design of your study?

FF The study that my colleagues and I conducted on risk factors in minority patients with GERD using convenience sampling provided the preliminary data needed to power this study. We are currently performing a population-based cross-sectional survey that is aided by geographic mapping. With this set-up, we hope to obtain an unbiased sample of individuals living in the community surrounding our institution. Invited subjects are completing a standardized electronic survey that looks

at a variety of environmental factors that could contribute to GERD and functional bowel disease (as defined by Rome III criteria). The control population will be comprised of white subjects in another area of Philadelphia. The first pieces of our data will be presented in several abstracts at the upcoming American College of Gastroenterology meeting.

G&H How prevalent is Barrett esophagus in minority populations with GERD?

FF In previous studies, the prevalence of Barrett esophagus in minority populations with GERD has been very low—in fact, much lower than the rate in white populations. According to Wang and colleagues, who used the CORI database, the suspected prevalence in white subjects, black subjects, and Hispanic subjects was 5.0%, 1.5%, and 2.9%, respectively. Obviously, many unmeasured confounders may be influencing this rate discordance. It is important to know the rate of Barrett esophagus in black patients; if this rate is much higher than previously reported, this change could influence screening strategies. However, this is a very controversial area in general.

The prevalence of Barrett esophagus will also be examined in our study. Subjects with GERD will undergo pH and manometry studies as well as an upper endoscopy.

G&H Are there differences in the knowledge or care patterns of GERD in minority patients?

FF The study published by Yuen and colleagues discusses this issue in great detail. Surprisingly, there are few differences between minority patients (black and Hispanic) and white patients with respect to their understanding of GERD complications and their avenues for seeking treatment. White subjects were more likely to use the Internet and family members to find out more information. White subjects with severe heartburn were least likely to see a primary care or specialist doctor.

G&H Has there been any research on whether proton pump inhibitors or other treatments for GERD have the same efficacy in different ethnicities or races?

FF To my knowledge, no studies have examined this issue, but it is an interesting subject to pursue.

G&H What are the most important research needs in these patient populations?

FF In my opinion, the most important area of research involves identification of modifiable risk factors for

GERD in minority populations. If our cross-sectional study confirms that central obesity is a risk factor in minority patients with GERD, this finding will have important implications. Previously uninvestigated risks in black patients may include post-traumatic stress disorder, substance abuse, and other understudied factors. Once potentially modifiable risk factors are identified, we can present our findings and recommendations for reducing the prevalence of GERD to the black community.

G&H Do you know of any specific upcoming or ongoing studies in this area?

FF My colleagues and I have received funding to examine the relationship between weight loss (through a prescription diet) and its effects on GERD and esophageal physiology. In this study, which will start next summer, obese black patients with GERD will enter a 6-month weight loss program in our Center for Obesity Research.

Suggested Reading

Friedenberg FK, Rai J, Vanar V, et al. Prevalence and risk factors for gastroesophageal reflux disease in an impoverished minority population. *Obes Res Clin Pract.* 2010;4:e261-e269.

Yuen E, Romney M, Toner RW, et al. Prevalence, knowledge and care patterns for gastro-oesophageal reflux disease in United States minority populations. *Aliment Pharmacol Ther.* 2010;32:645-654.

El-Serag HB, Petersen NJ, Carter J, et al. Gastroesophageal reflux among different racial groups in the United States. *Gastroenterology.* 2004;126:1692-1699.

Friedenberg FK, Hanlon A, Vanar V, et al. Trends in gastroesophageal reflux disease as measured by the National Ambulatory Medical Care Survey. *Dig Dis Sci.* 2010;55:1911-1917.

Sharma P, Wani S, Romero Y, Johnson D, Hamilton F. Racial and geographic issues in gastroesophageal reflux disease. *Am J Gastroenterol.* 2008;103:2669-2680.

Diaz-Rubio M, Moreno-Elola-Olaso C, Rey E, Locke GR 3rd, Rodriguez-Artalejo F. Symptoms of gastro-oesophageal reflux: prevalence, severity, duration and associated factors in a Spanish population. *Aliment Pharmacol Ther.* 2004;19:95-105.

Wang A, Mattek NC, Holub JL, Lieberman DA, Eisen GM. Prevalence of complicated gastroesophageal reflux disease and Barrett's esophagus among racial groups in a multi-center consortium. *Dig Dis Sci.* 2009;54:964-971.