

Sensing the Blowing Winds of Change

S Nasser-Moghaddam^{1*}

1. Associate Professor, Digestive Diseases Research Center, Shariati Hospital, Tehran University of Medical Sciences, Tehran, Iran

Gastro-esophageal reflux disease (GERD) has become a major health problem in the West, utilizing extensive amounts of health resources. It affects roughly 10-20% of the general population.¹ Proton pump inhibitors (PPIs) are the mainstay of its treatment and the majority of GERD patients will need to use them over the long run. Sales for PPIs are more than thirteen billion dollars a year, mostly for GERD.² This is solely for the direct therapeutic costs of GERD, not withstanding the other costs of diagnosis, maintenance and loss in work hours. To add to the complexity of the problem is the suggested association between GERD and lower esophageal adenocarcinoma that arises in the columnar lined esophagus, or the so-called "Barrett's esophagus".³ Additionally, GERD substantially impacts the quality of lives of affected patients, generating much concern. In any country, the health care system will suffer significant pressure, if not well-prepared.

How is the situation in the East? Population-based studies from the East indicate that prevalence of the disease is

much less than that observed in the West.⁴ So is this disease restricted to the western countries and not a major problem in less developed countries? Recent studies indicate that the more westernization happens in different countries, the more some diseases are seen, including GERD.⁵ As development is a necessity of modern communities and most development necessarily brings along life style changes, it can be deduced that GERD will increase in communities where it is still uncommon; therefore, monitoring of the trends of disease becomes important for adequate and timely preparation.

Do we have any information from Iran? Over the past few years several studies, including population-based studies, have addressed this issue. One of the first studies was performed by Ehsani et al. who found that about 18% of the 700 Tehran inhabitants interviewed suffered from at least weekly heartburn or acid regurgitation.⁶ Further studies by Pourshams et al. have reported weekly GERD symptoms in 7.5% of Tehran University freshmen (n: 3008), 10% in healthy blood donors

***Corresponding Author:**

Siavosh Nasser-Moghaddam MD, MPH
Digestive Diseases Research Center,
Shariati Hospital, Tehran University of
Medical Sciences, Tehran, Iran
Fax: +98 21 82415000
E-mail: sianm@ams.ac.ir
Received: 10 August 2010
Accepted: 1 September 2010

in Tehran (n: 3328) and 16% in the Gonbad cohort (n: 1063; the cohort covers 40-65 year old individuals from rural and urban areas in Golestan Province, northwestern Iran).⁷ Another population-based study from Tehran using a validated Persian version of the Mayo gastroesophageal questionnaire, "GERQ", found that about 18% suffer from at least weekly major (heartburn and acid regurgitation, non-cardiac chest pain) GERD symptoms. If minor symptoms (including extra-esophageal ones) were also included, then about 27% of the general Tehran inhabitants suffered from GERD.⁸ Population-based studies from Tabriz and Esfahan have reported similar figures.^{9,10} A telephone survey performed in Tehran reported 12% weekly GERD symptoms.¹¹

All the above tell us that GERD is prevalent in our country. If this is the case, then we need to monitor its trend carefully to be prepared for the consequences. In this issue, Sepanlou et al. have tackled this important topic and have shown that over the past fifteen years endoscopic GERD has increased in a referral center in Tehran.¹² Previous data from the same center had shown a similar trend,¹³ but Sepanlou and colleagues have analyzed a larger number of cases, e.g., over 8,000 patients undergoing endoscopy, over a longer period of time and have come to the same conclusion. Meanwhile the prevalence of peptic ulcer disease and *Helicobacter pylori*, as assessed by the rapid urease test, have decreased over the same period of time. This is certainly a milestone in understanding GERD trends in Iran and should receive its due merit. Despite this, there are some points in their study which should be looked at with caution. First, the investigators may have been biased by more awareness of GERD over time. This leads to making diagnoses which were not previously made without an increase in true prevalence/incidence of the disease. This is innate to all such studies; therefore, the reported percent increase may

be an overestimation. The sharp rise in erosive reflux disease diagnosed from 1999 on supports this view. Second, there may be a referral bias to the large tertiary care center where the cases have been reported. Again this may give an overestimation of the true percent increase in prevalence. Third, these investigators have reported an overall 61.5% erosive reflux disease in their patients, rising to about 80% in the latter years of the study. We do not know what percentage of their patients had clinical symptoms of GERD, but even if all the 8,029 patients who underwent upper GI endoscopies in this study had evidence of clinical GERD, this figure for erosive reflux disease remains about 50-100% more than most other reports. Whether this is an overestimation induced by high prevalence of GERD-A (which has a high inter-observer variability) or a true high prevalence of erosive reflux disease among Iranians remains to be understood.¹⁴ Fourth, there is no information about esophageal columnar metaplasia and Barrett's esophagus. A study addressing the lower esophagus in 269 Iranian patients have reported that about 5% of patients had long segment (>3cm) endoscopic columnar metaplasia, none of whom harbored specialized intestinal metaplasia characteristic of Barrett's esophagus.¹⁵ This needs to be further addressed.

Considering all the above, Sepanlou et al.'s findings highlight the changing trends in GI epidemiology in Iran. Therefore, it is necessary to perform prospective formal epidemiological studies at regular intervals, say ten years, to monitor this trend carefully and plan appropriately to avoid over- or under-estimation of disease occurrence. Considering the increasing prevalence of adenocarcinoma of the lower esophagus in Iran,¹⁶ further studies are needed to determine the prevalence of Barrett's esophagus among Iranians and its possible contribution to this slow, but real increase.

REFERENCES

1. Locke GR, Talley NJ, Fett SL, Zinsmeister AR, Melton LJ 3rd. Prevalence and clinical spectrum of gastroesophageal reflux: a population-based study in Olmsted County, Minnesota. *Gastroenterology* 1997;**112**:1448-56.
2. Katz MH. Failing the Acid Test: Benefits of Proton Pump Inhibitors May Not Justify the Risks for Many Users. *Arch Intern Med* 2010;**170**:747-8.
3. Lagergren J, Bergstrom R, Lindgren A, Nyrén O. Symptomatic gastroesophageal reflux as a risk factor for esophageal adenocarcinoma. *N Engl J Med* 1999;**340**:825-31.
4. Chang CS, Poon SK, Lien HC, Chen GH. The incidence of reflux esophagitis among the Chinese. *Am J Gastroenterol* 1997;**92**:668-71.
5. Fujiwara Y, Arakawa T. Epidemiology and Clinical Characteristics of GERD in the Japanese Population. *J Gastroenterol* 2009;**44**:518-34.
6. Ehsani MJ, Maleki I, Mohammadzadeh F, Mashayekh A. Epidemiology of Gastro-esophageal Reflux Disease in Iran. *J Gastroenterol Hepatol* 2007;**22**:1419-22.
7. Pourshams A, Malekzadeh R, Azimi K. Relative frequency of functional gastrointestinal diseases among Iranian Blood Donors. *Digest J* 2001;**31**:27.
8. Nasseri-Moghaddam S, Mofid A, Ghotbi MH, Razjouyan H, Nouraei M, Ramard AR, et al. Epidemiological study of gastro-esophageal reflux disease: reflux in spouse as a risk factor. *Aliment Pharmacol Ther* 2008;**28**:144-53.
9. Khoshbaten M. Gastro-esophageal reflux disease in north-western Tabriz, Iran. *Indian J Gastroenterol* 2003;**22**:138-9.
10. Somi MH, Farhang S, Mirinezhad K, Jazayeri E, Nasseri-Moghaddam S, Moayeri S, et al. Prevalence and precipitating factors of gastro-esophageal reflux disease in a young population of Tabriz, Northwest of Iran. *Saudi Med J* 2006;**27**:1878-81.
11. Nouraei M, Razjouyan H, Assady M, Malekzadeh R, Nasseri-Moghaddam S. Epidemiology of gastroesophageal reflux symptoms in Tehran, Iran: a population-based telephone survey. *Arch Iran Med* 2007;**10**:289-94.
12. Sepanlou SG, Khademi H, Abdollahzadeh N, Noori F, Malekzadeh F, Malekzadeh R. Time-trends of Gastroesophageal Reflux Disease and Peptic Ulcer Disease in Iran. *Middle East J Dig Dis* 2010;**2**:78-83.
13. Sotoudehmanesh R, Nasseri-Moghaddam S, Shirazian N. Prevalence of endoscopic gastroesophageal reflux disease in a 6-year period. *Endoscopy* 2000;**32**:33.
14. Nasseri-Moghaddam S, Razjouyan H, Nouraei M, Alimohammadi M, Mamarabadi M, Vahedi H, et al. Inter- and intra-observer variability of the Los Angeles classification: a reassessment. *Arch Iran Med* 2007;**10**:48-53.
15. Nasseri-Moghaddam S, Malekzadeh R, Sotoudeh M, Tavangar M, Azimi K, Sohrabpour AA, et al. Lower Esophagus in Dyspeptic Iranian Patients: A Prospective Study. *J Gastroenterol Hepatol* 2003;**18**:315-21.
16. Haghdoost AA, Hosseini H, Chamani G, Zarei MR, Rad M, Hashemipoor M, et al. Rising incidence of adenocarcinoma of the esophagus in Kerman, Iran. *Arch Iran Med* 2008;**11**:364-70.