Gastroesophageal Reflux—Is It Uncommon in Indian Patients With Decompensated Liver Cirrhosis?

Gastroesophageal reflux disease (GERD) is defined as reflux of stomach contents causing troublesome symptoms and/or complications.¹ Typical symptoms of GERD include heartburn, regurgitation, a combination of the two, and dysphagia. Atypical extra-esophageal symptoms include hoarseness of voice, cough, wheeze, recurrent sore throat, otalgia, noncardiac chest pain, and, rarely, enamel erosions. The proposed mechanisms of reflux in cirrhosis and ascites include higher plasma vasoactive peptide and neurotensin levels, causing lowering of pressure of the lower esophageal sphincter (LES),^{2,3} delayed gastric emptying,^{4,5} ascites increasing intraabdominal pressure,^{6,7} and effect of esophageal varices on esophageal emptying and LES function.^{4,8}

We prospectively studied the prevalence of GERD symptoms among Indian patients with decompensated cirrhosis. Data were collected prospectively using a pre-designed questionnaire. We excluded patients who recently had gastrointestinal bleeding or had undergone endoscopic therapy in the preceding 4 weeks. Baseline information included age, gender, details of smoking (current, past, or never), and alcohol (past, present, or never) and tobacco usage (past, present, or never). Severity of ascites was graded as mild, moderate, and massive/tense. History of typical and atypical symptoms of GERD was recorded. Descriptive analysis was performed with median and range for quantitative variables and frequency and proportion for categorical variables. Chi square test was used to compare proportions. A *P* value < 0.05 was considered statistically significant.

A total of 200 cases (179 males; 90%) were studied. The median age at presentation was 56.7 years (range 36–72), and 0.110 men were consuming alcohol (55%) with a duration ranging from 5 to 30 years. There were 92 current smokers (46%, duration 5–30 years) and 28 tobacco users (14%, duration 10–30 years). The severity of ascites was graded as mild in 6 patients (3%), moderate in 118 (59%), and massive/tense in 76 (38%).

Nineteen patients had GER (9.5%); 16 had heartburn (8%), and 3 had regurgitation. None had extra-esophageal symptoms. Interestingly, those with mild ascites had significantly more GERD symptoms than those with moderate and massive ascites (Table 1). None of the

Table 1 Comparison of Cases With GERD Symptoms With Those Without Symptoms.

Parameters assessed	GERD symptoms present (n = 19)	No GERD symptoms (n = 181)	P value
Age in years	52 (45–70)	57 (36–72)	0.78
Sex			
Male	17 (89.5%)	162 (89.5%)	1.0
Ascites grading			
Mild	3 (16%)	3 (1.7%)	0.0006
Moderate	10 (53%)	109 (60%)	0.55
Severe	6 (31%)	9 (38.3%)	0.54
Risk factors			
Alcohol	10 (53%)	100 (55.5%)	0.86
Smoking	6 (37%)	86 (47.5%)	0.40
Tobacco	2 (12%)	26 (14.4%)	0.77

GERD, gastroesophageal reflux disease.

risk factors, sex, age, and severity of ascites correlated with patient symptoms.

The present study highlights that GERD symptoms are infrequent among Indian patients with cirrhosis and ascites. In a study on Chinese population on the prevalence of reflux esophagitis in patients with cirrhosis, it was noted that most patients with reflux esophagitis were asymptomatic. Dyspepsia and heartburn were noted in 12.3% and 10.4% patients, respectively.⁹ At our centre, in the last one year, 705 patients with end-stage liver disease underwent upper gastrointestinal endoscopy. Of these, only 6 (0.85%) had reflux esophagitis (Los Angeles grade A or B). The reasons for lower occurrence of GERD symptoms in Indian population may include lower gastric acid levels and *Helicobacter pylori* infection. Many of these patients are prescribed proton pump inhibitors as a habit, and this empirical use of acid suppressants can predispose them to bacterial overgrowth.

To conclude, symptoms of reflux disease are infrequent in Indian patients with decompensated liver disease. Empirical use of acid suppressants is not justified in these cases.

CONFLICTS OF INTEREST

The authors have none to declare.

<https://doi.org/10.1016/j.jceh.2018.09.007>

REFERENCES

1. Vakil N, Van Zanten, Kahrilas P, et al. The Montreal definition and classification of gastroesophageal reflux disease: a global evidence-based consensus. *Am J Gastroenterol*. 2006;101:1900–1943.
2. Grassi M, Albiani B, De Matteis A, Fontana M, Lucchetta MC, Raffa S. Prevalence of dyspepsia in liver cirrhosis: a clinical and epidemiological investigation. *Minerva Med*. 2001;92(1):7–12.
3. Suzuki K, Suzuki K, Koizumi K, et al. Effect of symptomatic gastroesophageal reflux disease on quality of life of patients with chronic liver disease. *Hepatol Res*. 2008;38(4):335–339.
4. Navarro-Rodriguez T, Hashimoto CL, Carrilho FJ, Strauss E, Laudanna AA, Moraes-Filho JP. Reduction of abdominal pressure in patients with ascites reduces gastroesophageal reflux. *Dis Esophagus*. 2003;16(2):77–82.
5. Schechter RB, Lemme EMO, Coelho HSM. Gastroesophageal reflux in cirrhotic patients with esophageal varices without endoscopic treatment. *Arq Gastroenterol*. 2007;44(2):145–150.
6. Richter JE. Role of the gastric refluxate in gastroesophageal reflux esophagitis: acid, weak acid and bile. *Am J Med Sci*. 2009;338(2):89–95.
7. Isobe H, Sakai H, Satoh M, Sakamoto S, Nawata H. Delayed gastric emptying in patients with liver cirrhosis. *Dig Dis Sci*. 1994;39(5):983–987.
8. Souza RC, Lima JH. Helicobacter pylori and gastroesophageal reflux disease: a review of this intriguing relationship. *Dis Esophagus*. 2009;22(3):256–263.
9. Li B, Zhang B, Ma JW, et al. High prevalence of reflux esophagitis among upper endoscopies in Chinese patients with chronic liver diseases. *BMC Gastroenterol*. 2010;10:54. <https://doi.org/10.1186/1471-230X-10-54>.

**Uday Sanglodkar, Mayank Jain, M.J. Alexander,
Jayanthi Venkataraman**

Department of Gastroenterology, Gleneagles Global
Health City, Chennai, India

Department of Gastroenterology, Stanley Medical College,
Chennai, India

Address for correspondence: Mayank Jain, Consultant,
Department of Gastroenterology, Gleneagles Global
Health City, Chennai, India.

E-mail: mayank4670@rediffmail.com (M. Jain)

10 August 2018.