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LETTER

Upper Esophageal Sphincter Dysfunction in Gastroesophageal Reflux Disease

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Dear Editor,

Cricopharyngeal muscle is the main functional component of the upper esophageal sphincter (UES). Nativ-Zelter et al., published data demonstrating a smaller UES opening diameter during swallowing in patients with hiatal hernia (0.81 ± 0.24 cm) compared with subjects without hiatal hernia (0.93 ± 0.25 cm, $p = 0.016$), suggesting an association between gastroesophageal reflux disease (GERD) and cricopharyngeal muscular dysfunction [1]. This possibility was also suggested by Mendell and Logemman [2], who demonstrated that patients with GERD have longer duration of many pharyngeal-swallowing events, including a longer cricopharyngeal opening, which means a longer time for bolus passage through the sphincter. Other changes in UES function in patients with GERD have been described, as short and hypotonic UES [3], and increased UES pressure caused by transient lower esophageal sphincter relaxation compared with healthy subjects [4].

In 2015, we published data on oral and pharyngeal transit of 5 mL and 10 mL liquid and paste boluses in patients with GERD [5]. We found a longer bolus transit through the UES in patients than in controls, with liquid (5 mL: GERD—0.47 ± 021 s; Controls—0.39 ± 0.10 s, $p = 0.01$) and paste (10 mL: GERD—0.51 ± 0.21 s; Controls—0.45 ± 0.14 s, $p = 0.01$) boluses. The slower bolus transit through the sphincter may be related with dysphagia, a frequent complaint of patients with GERD [6], which was described in up to 47% of patients with esophagitis [7]. The cause of nonobstructive dysphagia in GERD patients may be multifactorial and has not been elucidated, although evidence has suggested the involvement of cricopharyngeal muscle dysfunction. Patients with esophagitis and dysphagia have longer bolus transit time through the UES than controls, which is not observed among patients with esophagitis without dysphagia [5]. Electromyographic analysis of the cricopharyngeal muscle of patients with GERD did not find changes [8].

The association between cricopharyngeal muscle dysfunction and dysphagia in patients with GERD require further investigations [1].

Compliance with Ethical Standards

Conflicts of interest The authors of this letter, Roberto O. Dantas and Rachel A. Cassiani declared no potential conflicts of interest with respect to the authorship or publication of this letter.

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