



# Role of the Rapid Drink Challenge Test in Esophageal Motility Disorder Diagnosis

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**Article:** Role of rapid drink challenge during esophageal high-resolution manometry in predicting outcome of peroral endoscopic myotomy in patients with achalasia  
Foisy H, Pioche M, Chabrun E, et al  
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Advanced esophageal manometry based on a high-resolution system expanded the understanding of esophageal physiology compared with conventional manometry.<sup>1,2</sup> The Chicago classification is based on high resolution manometry and could enhance the diagnostic yield better than the conventional criteria.<sup>3</sup> Diagnosis according to the Chicago classification and its protocol is based on the ten 5-mL swallows in the supine position.<sup>2</sup> However, with the current Chicago classification protocol, unknown or ambiguous motility findings remain.<sup>2,4</sup>

Provocative tests to supplement to the conventional esophageal manometry protocol have improved the diagnostic yield of the Chicago classification for esophageal motility disorders.<sup>4</sup> Solid or semi-solid swallow, multiple rapid swallows, and the rapid drink challenge (RDC) can add to the conventional manometry protocol by supporting the current esophageal manometry criteria.<sup>4</sup> Solid or semi-solid swallow is usually performed by instructing the patient to swallow bread or apple sauce.<sup>5-7</sup> Multiple rapid swallows, comprising 5 swallows of 2-mL liquid with 2- or 3-second intervals,

showed potential usefulness in the assessment of contractile reserve in the esophagus.<sup>8-10</sup>

The RDC test is usually performed by instructing the patient to drink 200-mL water as fast as possible.<sup>11,12</sup> This test can reinforce the central and peripheral deglutitive inhibitions of the esophagus.<sup>4</sup> Therefore, it can increase suppression of esophageal body contraction and complete relaxation of the lower esophageal sphincter.<sup>11,12</sup> It showed good potential in the assessment of esophagogastric junction function.<sup>11-13</sup> A study showed that a cutoff integrated relaxation pressure of > 12 mmHg indicated discrimination between achalasia and esophagogastric junction outflow obstruction without achalasia.<sup>11,12</sup> Moreover, RDC showed good reliability in estimating esophageal stasis by comparing timed barium esophagography in patients with achalasia.<sup>14</sup>

In the paper by Foisy et al,<sup>15</sup> RDC showed potential usefulness in the assessment of esophageal body contractility in achalasia even after peroral endoscopic myotomy (POEM). In contrast, conventional manometry profiles of the Chicago classification between

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pre-and post-POEM that were measured conventionally using 10 single swallows were not associated with outcome after POEM.<sup>15</sup> However, several limitations of the study remain, including retrospective design, and relatively short follow-up after POEM.<sup>15</sup> Owing to the relatively small study sample, differences by procedure performers could not be determined. Nevertheless, this study showed potential ability of RDC to predict the clinical outcome of achalasia even after POEM.

Other studies reported that the use of an endoluminal functional probe (endoFLIP) with a panometry pattern might predict the outcome after POEM in achalasia or other spastic motor disorders.<sup>16,17</sup> However, endoFLIP is relatively expensive and not widely available. RDC can be relatively easy to perform during the conventional manometry protocol, but more data based on large sample are needed to elucidate its potential role in the prediction of outcome in patients with achalasia.<sup>4,15</sup>

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