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Vagal Tone and Meal-Induced Abdominal Symptoms in Healthy Subjects

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Key Words

- Epigastric discomfort
 - Healthy subjects
 - Vagal tone
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Abstract

Background/Aims: Patients with functional dyspepsia often have meal-induced dyspeptic symptoms and low vagal tone. We examined whether these variables are related in healthy subjects. *Methodology:* In 40 healthy subjects vagal tone and abdominal symptoms were recorded before and after a 500-ml soup meal ingested in 1 and 4 min on separate visits. Vagal tone was indexed by respiratory sinus arrhythmia (RSA). *Results:* Scores for nausea and discomfort were higher when the soup was ingested in 1 min as compared with 4 min (nausea: $p = 0.02$; discomfort: $p = 0.04$). There was no difference in fullness or abdominal pain. RSA was unrelated to meal-induced symptom scores. RSA varied with respiration and body position: It was highest while breathing deeply in the sitting position (24.0 beats/min). With normal breathing RSA was highest in the supine position (9.0 beats/min), lower while sitting (7.0 beats/min) and lowest while standing (6.2 beats/min). *Conclusions:* Epigastric discomfort in response to rapid ingestion of a test meal in healthy subjects was not related to vagal tone as indexed by RSA. Vagal tone varied with breathing pattern and body position. It is possible that increasing vagal tone by such measures can be beneficial in the treatment of patients with functional dyspepsia.