

# Anxiety can significantly explain bolus perception in the context of hypotensive esophageal motility: Results of a large multicenter study in asymptomatic individuals.

Daniel Cisternas, Charlotte Scheerens, Taher Omari, Hugo Monrroy, Albis Hani, A. Leguizamo, C. Bilder, A. Ditaranto, A. Ruiz de León, J. Pérez de la Serna, Miguel Valdovinos, R. Coello, L. Abrahao, Jose Remes-Troche, A. Meixueiro, M. Zavala, I. Marin y J. Serra.

## Abstract

**BACKGROUND:** Previous studies have not been able to correlate manometry findings with bolus perception. The aim of this study was to evaluate correlation of different variables, including traditional manometric variables (at diagnostic and extreme thresholds), esophageal shortening, bolus transit, automated impedance manometry (AIM) metrics and mood with bolus passage perception in a large cohort of asymptomatic individuals.

**METHODS:** High resolution manometry (HRM) was performed in healthy individuals from nine centers. Perception was evaluated using a 5-point Likert scale. Anxiety was evaluated using Hospitalized Anxiety and Depression scale (HAD). Subgroup analysis was also performed classifying studies into normal, hypotensive, vigorous, and obstructive patterns.

**KEY RESULTS:** One hundred fifteen studies were analyzed (69 using HRM and 46 using high resolution impedance manometry (HRIM)); 3.5% swallows in 9.6% of volunteers were perceived. There was no correlation of any of the traditional HRM variables, esophageal shortening, AIM metrics nor bolus transit with perception scores. There was no HRM variable showing difference in perception when comparing normal vs extreme values (percentile 1 or 99). Anxiety but not depression was correlated with perception. Among hypotensive pattern, anxiety was a strong predictor of variance in perception ( $R^2$  up to .70).

**CONCLUSION AND INFERENCES:** Bolus perception is less common than abnormal motility among healthy individuals. Neither esophageal motor function nor bolus dynamics evaluated with several techniques seems to explain differences in bolus perception. Different mechanisms seem to be relevant in different manometric patterns. Anxiety is a significant predictor of bolus perception in the context of hypotensive motility.