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The efficacy of balloon dilation in achalasia is the result of stretching of the lower esophageal sphincter, not muscular disruption

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Background: Pneumatic dilation (PD) of the lower esophageal sphincter (LES) is a major palliative treatment in achalasia. It is generally believed and frequently stated in the Gastroenterology Textbooks and Journals, that the beneficiary effect of PD in achalasia, is the result of rupture of the circumferential muscular layer of the LES, as done in Heller surgical procedure. However, the effectiveness of PD, contrary to that of Heller myotomy, is often short lived, and recurrence of dysphagia necessitates repeat PD with a larger balloon diameter (35-40 mm).

Aims: The lack of durability of effectiveness of PD in achalasia and the lack of any previous study in support of the presumptive mechanism of action of PD to explain the effectiveness of this procedure, prompted the author to investigate the state and the integrity of the LES, 24 hours after PD and clarify the most likely mechanism for symptomatic relief after PD in achalasic patients.

Method: To look for and detect the occurrence and the extent of any muscular disruption at the LES, 43 eligible and consenting patients with definite diagnosis of achalasia, underwent endoscopy ultra-sound, using Olympus GF-UE160 echoendoscope with an Aloka prosound probe at 7.5 MHZ, 24 hours after PD.

Results: Out of 43 patients, 36 (83.7%) revealed an intact LES, 5 (11.6%) demonstrated small area of muscular disruption and 2 (4.6%) showed small hematoma. None of the investigated patients developed symptoms or signs of esophageal perforation.

Conclusion: Our results convincingly demonstrate that clinical improvement from PD in achalasia is not related to rupture of the muscular layer of the LES, but is the result of circumferential stretching of the LES. One may also conclude from this study that any muscular disruption from PD in achalasia should be considered a complication of the procedure and not the intended result.

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