



## Esophageal manometry and pH analysis on gastroesophageal reflux disease

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### Abstract

**AIM:** To study the relationship of esophageal dynamics, acid reflux and esophagitis, and to study the mechanism of gastroesophageal reflux disease (GERD).

**METHODS:** 46 subjects with symptoms of heartburn, regurgitation and/or chest pain for at least 1/2 year were detected by esophageal manometry, ambulatory 24-h esophageal pH monitoring and endoscopy at the same time. In all subjects the pH score, lower esophageal sphincter pressure (LESP) and biopsy pathology were recorded.

**RESULTS:** (1) 34 cases were diagnosed as GERD. (2) In 34 GERD cases, the positive rate of pH monitoring, endoscopy and manometry

was respectively 82.3%, 64.7% and 52.9%. The difference of these rates was significant ( $\chi^2$  test,  $P < 0.005$ ). (3) In 34 GERD cases: the 3 way of pH monitoring, endoscopy and manometry were correlated ( $\chi^2$  test,  $P > 0.05$ ). (4) pH score value in esophagitis group and non esophagitis group was respectively  $54.9 \pm 49.9$  and  $22.2 \pm 12.6$ . Score in esophagitis group was higher than that in non esophagitis group ( $t$  test:  $P < 0.05$ ).

**CONCLUSIONS:** (1) Symptoms of heartburn and regurgitation are important in diagnosis of GERD. (2) pH monitoring, manometry and endoscopy pathology can reflect characters of GERD from different degree and different levels. All three methods in diagnosis of GERD are necessary. (3) Esophagitis, lower LESP and higher reflux score are closely related with each other. The definite relationship of these ways is the key to understand the mechanism of GERD. (4) According to our study, the synthesized way of inflammation factor increasing esophageal motility and decreasing secretion of gastric acid is the effective way to treat GERD.

**Key words:** Esophageal manometry; Ambulatory pH monitoring

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