

## Study of 24-h gastric pH monitoring in the diagnosis of duodenal gastric reflux

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### Abstract

**AIM:** Duodenogastric reflux (DGR) has been regarded a clinical pathophysiological phenomenon associated with an etiology of various digestive tract disease, which is the result of reflux of duodenal contents into the stomach. At present, the radionuclide examination is the first choice for the diagnosis of DGR, but it is too expensive to spread.

**METHODS:** In this paper, 10 normal control and 30 chronic gastritis patients with symptoms of DGR were monitored by self developed gastric pH monitoring instrument for 24 h. The efficacy of 24-h gastric pH monitoring was compared with that of radionuclide examination for diagnosis of DGR and 24-h gastric pH was also compared among the normal control, chronic gastritis patients of DGR (+) and DGR (-). According our knowledge, similar report has not been reported in China.

**RESULTS:** (1) Normal control group: One case DGR (+) was found by radionuclide examination, and no case DGR (+) was found by 24-h gastric pH monitoring. (2) Nineteen cases DGR (+) and nine cases DGR (-) were found by radionuclide and 24-h gastric pH monitoring. Two cases had different results. (3) Gastric acid pH type in three groups: (1) Normal control group, the time of  $\text{pH} \leq 2$  occupied  $81.5\% \pm 1.6\%$  of the study period,  $\text{pH} > 4$ ,  $\text{pH} > 6$  occupied  $8.0\% \pm 0.4\%$ ,  $3.4\% \pm 0.3\%$ , respectively. (2) DGR (-) chronic gastritis group, when compared with control group, the percentage of  $\text{pH} \leq 2$  ( $31.4\% \pm 2.1\%$ ) decreased significantly ( $P < 0.01$ ),  $\text{pH} > 4$  ( $14.5\% \pm 0.2\%$ ) increased ( $P < 0.05$ ). (3) DGR (+) gastritis group, when compared with DGR (-) gastritis group, the percentage of  $\text{pH} \leq 2$  ( $21.1\% \pm 3.3\%$ ) decreased ( $P < 0.05$ ).  $\text{pH} > 4$  ( $53.5\% \pm 4.8\%$ ),  $\text{pH} > 6$  ( $23.3\% \pm 4.3\%$ ) increased significantly ( $P < 0.01$ ).

**CONCLUSIONS:** (1) 24-h pH monitoring can diagnose DGR accurately. (2) The gastric pH is predominant acidic type in normal control group, acidic decreased type and acidic lacked type in DGR (-) and (+) gastritis group respectively.

**Key words:** Duodenogastric reflux; 24-h gastric pH monitoring; Radionuclide

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