

Sun LP, Gong YH, Wang L, Yuan Y. Serum pepsinogen levels and their influencing factors: a population-based study in 6990 Chinese from North China. *World J Gastroenterol.* 2007 Dec 28;13(48):6562-7.

AIM: To explore the essential characteristics of serum pepsinogen (PG) levels in Chinese people, by analyzing the population-based data on the serum levels of PG I and II and the PG I/II ratio, and their influencing factors in Chinese from North China. **METHODS:** A total of 6990 subjects, who underwent a gastric cancer screening in North China from 1997 to 2002, were collected in this study. Serum pepsinogen levels were measured by enzyme-linked immunosorbent assay (ELISA). H pylori status was determined by histological examination and H pylori-IgG ELISA. The cut-off point was calculated by using receiving operator characteristics (ROC) curves. Factors linked to serum PG I/II ratio were identified using a multivariate logistic regression. **RESULTS:** The serum PG I and PG II levels were significantly higher in males than in females (95.2 microg/L vs 79.7 microg/L, $P < 0.01$; 12.1 microg/L vs 9.4 microg/L, $P < 0.01$), PG I/II ratio was significantly lower in males than in females (7.9 vs 8.3, $P < 0.01$). The PG I/II ratio decreased significantly in the aged groups following the progression of gastric mucosa from normal to non-atrophic and atrophic lesions (10.4, 8.8, and 6.6, respectively). The serum PG I and II levels were significantly higher in patients with H pylori infection than in those without H pylori infection (88.7 microg/L vs 81.4 microg/L, $P < 0.01$; 11.4 microg/L vs 8.4 microg/L, $P < 0.01$), while the PG I/II ratio was significantly lower in patients with H pylori infection than in those without H pylori infection (7.7 vs 9.6, $P < 0.01$). For patients with atrophic lesions, the area under the PG I/II ROC curve was 0.622. The best cut-off point for PG I/II was 6.9, with a sensitivity of 53.2%, and a specificity of 67.5%. Factors linked to PG I/II were sensitive to identified PG using a multinomial logistic regression relying on the following inputs: males (OR: 1.151, 95% CI: 1.042-1.272, $P = 0.006$), age \geq 61 years (OR: 1.358, 95% CI: 1.188-1.553, $P = 0.000$), atrophic lesion (OR: 2.075, 95% CI: 1.870-2.302, $P = 0.000$), and H pylori infection (OR: 1.546, 95% CI: 1.368-1.748, $P = 0.000$). **CONCLUSION:** The essential characteristics of serum PG levels in Chinese are significantly skewed from the normal distribution, and influenced by age, sex, gastric mucosa lesions and H pylori infection. PG I/II ratio is more suitable for identifying subgroups with different influence factors compared with PG I or PG II alone.