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THE APPLICATION OF SERUM BIOMARKERS TO DETECT PRE-MALIGNANT LESIONS IN GASTRIC CORPUS

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INTRODUCTION

Gastric adenocarcinoma is often diagnosed at advanced stage, leading to cancer death. Corpus-predominant atrophic gastritis increases the risk of gastric cancer. We aim to investigate the utility of serum biomarkers to diagnose chronic atrophic gastritis (CAG) and intestinal metaplasia (IM) and determine the sensitivity and specificity of serum pepsinogen I (PGI), pepsinogen II (PGII), ratio of PGI to PGII (PG I/II) and gastrin-17 (G-17) in detecting these lesions.

MATERIALS AND METHODS

We performed a cross sectional observational study involving patients who underwent gastroscopy for dyspepsia in our unit. Endoscopic CAG is graded based on Kimura-Takemoto classification and gastric biopsies were analyzed using updated Sydney system. Serum PGI, PGII, G-17 and H. pylori antibody levels were measured by enzyme-linked immunosorbent assay.

RESULTS

A total of 72 patients with mean age of 56.2 years (±16.2) were recruited. The median level of PGI, PGII, PG I/II ratio and G-17 for all subjects were 129.9µg/L, 10.3µg/L, 14.7 and 4.4pmol/L respectively. Subjects with corpus CAG/IM had significantly lower PG I/II ratio (7.2, $p< 0.001$) compared to the control group (PG I/II=15.7). There was no significant difference in serum G-17 level between antral CAG/IM group and non-CAG group. Histological CAG and IM correlated well with serum PG I/II ratio ($r = - 0.417$, $p< 0.001$). The cut off value of PG I/II ratio of ≤ 10.0 exhibit high sensitivity (83.3%), specificity (77.9%) and area under the ROC curve (AUC) of 0.902 in detecting corpus CAG/IM. However, at PG I/II ratio of ≤ 3.0, the sensitivity was very low. Serum PG I, PGII and G-17 level have low sensitivity in detecting CAG/IM.

CONCLUSION

Serum PG I/II ratio could potentially be used as an outpatient and non-invasive method for detecting pre-malignant gastric lesions, in particular chronic atrophic gastritis and intestinal metaplasia in gastric corpus.

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OUTCOMES ASSESSMENT OF PATIENTS PRESENTING WITH MILD TRAUMATIC BRAIN INJURY USING THE ABBREVIATED WESTMEAD POST TRAUMATIC AMNESIA SCORE (A-WPTAS) IN THE EMERGENCY DEPARTMENT OF UKM MEDICAL CENTER

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