

ORIGINAL ARTICLE

## Serum biomarkers provide an accurate method for diagnosis of atrophic gastritis in a general population: The Kalixanda study

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### Abstract

**Objective.** Serological biomarkers can be used for non-invasive diagnosis of gastritis and atrophic gastritis. The aim of this study was to compare the validity of serum levels of pepsinogen I (PGI) and II (PGII), gastrin-17 (G-17) and *Helicobacter pylori* antibodies (Hpab) with that of the gold standard histology for diagnosis of atrophic gastritis in a population sample from Northern Sweden. **Material and methods.** In all, 1000 subjects underwent endoscopies with biopsies. Serum biomarkers were available in 976 subjects for independent diagnosis of gastric mucosal status using a predetermined diagnostic algorithm. **Results.** Overall agreement between histology and serological biomarkers in diagnosing corpus atrophy was 96% (CI 95%: 95–97%). Sensitivity and specificity of markers for atrophic gastritis were 71% (CI 68–74%) and 98% (CI 97–99%) respectively, corresponding to 69% (CI 95%: 66–72%) and 98% (95% CI 97–99%) positive and negative predictive values. The positive likelihood ratio was 35.5 (95% CI: 35.0–36.0%). In subgroups with normal stomachs, *H. pylori* non-atrophic gastritis and *H. pylori*-negative gastritis by histology, the prevalence of corpus atrophy diagnosed with the biomarkers was 0.8% and 4.9%, respectively. In total, 6.6% of subjects in the study population had corpus atrophy according to the serological biomarkers. **Conclusions.** Serological biomarkers show a high degree of accuracy as a non-invasive method to diagnose corpus atrophy, which is common in the general population.

**Key Words:** Atrophic gastritis, biological markers, gastritis, *Helicobacter pylori*