How to Diagnose Atrophic Gastritis Non-endoscopically

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_H. pylori_ gastritis and particularly atrophic gastritis with subsequent hypochlorhydric stomach are definite risk conditions of gastric cancer (GCA). GCA of diffuse type prevails in non-atrophic _H. pylori_ gastritis whereas GCA of intestinal type prevails in atrophic gastritis. The risk of cancer progressively increases with increasing grade of atrophy and may be 90-fold in subjects with severe atrophic gastritis in both antrum and corpus (severe multifocal atrophic gastritis). On the other hand, the risk of cancer in normal and healthy stomach is practically nil except of the few cases with inherited gene errors. The knowledge of serum/plasma levels of specific gastric biomarkers (pepsinogens I (PGI) and II (PGII), amidated gastrin-17 (G-17) and _H. pylori_) provides a tool to assess the structure and function of the gastric mucosa reliably. In fact, atrophic gastritis is the highest risk condition for gastric cancer known so far, and it is a condition in which cancer can be found most frequently. Strategies intended to screen asymptomatic or dyspeptic subjects with endoscopy or with simple biomarker tests for _H. pylori_ gastritis and atrophic gastritis followed by diagnostic endoscopy, enable the physicians to find the gastric cancer cases at early and curable stage.

Both diagnostic endoscopy with biopsy histology and the biomarker tests (GastroPanel® and GastroView® tests, Biohit Plc, Helsinki, Finland) can delineate, even from a fingertip blood sample (GastroView®), the subjects into three categories with a dissimilar cancer risk. That is, the group of subjects with 1) **healthy stomach mucosa** without virtually any cancer risk; 2) **non-atrophic _H. pylori_ gastritis** with slightly increased (2-fold) cancer risk, or 3) **atrophic gastritis** (may be _H. pylori_ positive or negative) with markedly increased (2-90-fold) cancer risk. At present in South Korea, it may be estimated that roughly 30%, 50% and 20% of elderly people could be classified into these three categories, respectively.

In subjects with most extensive and severe multifocal atrophic gastritis, all biomarkers (PGI, PGI/PGII ratio and G-17) are abnormally low in plasma and the patients may _H. pylori_ positive or negative. In non-atrophic gastritis, only _H. pylori_ antibodies are elevated whereas the other biomarker levels are normal. All biomarkers are normal in subjects with a healthy and normal stomach mucosa. In two Finnish cross-sectional population-based studies on "asymptomatic" subjects, gastric cancer or its early stage was found in 4-6% of men older that 50 years with moderate or severe atrophic gastritis. In 70% of the cases with definite invasive cancer, the tumor was early ("early cancer") at surgery when the tumors were detected in subjects undergone the "biomarker screening-endoscopy" procedure.