GastroPanel report by the GastroSoft® helps interpret the results

Example of a GastroPanel report:

Patient Data

Name	**Last First name**
Date of birth	**15.2.1944**
Age	**71**
Eradicated	**No**
Use of PPI	**Temporarily (pause 7 days)**
Acidic symptoms	**Countinously**
Use of NSAIDs	**No**

Assay Data

Collected	**26.8.2015**
Analyzed	**28.8.2015**

			reference range:*
Pepsinogen I (PGI)	**26,3**	µg/l	30 - 160 µg/l
Pepsinogen II (PGII)	**4,1**	µg/l	3 - 15 µg/l
PGI/PGII	**6,4**		3 - 20
Gastrin-17b (G-17b)	**13,8**	pmol/l	1 - 7 pmol/l
H. pylori antibodies (HPAB)	**21,5**	EIU	< 30 EIU

Interpretation

The results indicate atrophic gastritis (loss of gastric cells) in the corpus due to a past *Helicobacter pylori* infection, or an autoimmune disease. Gastric acid secretion is decreased. Atrophic gastritis (loss of gastric cells, "no gastric acid") is a significant risk factor for gastric cancer. Hence gastroscopy is recommended. The carcinogenic acetaldehyde forming in an achlorhydric stomach is one possible cause of gastric and oesophageal cancer. The final diagnosis can be decided after gastroscopy.

Test and create your own GastroPanel report at www.gastropanel.com

GastroSoft® is a software application designed to assist clinicians in interpreting GastroPanel test results with optional anamnestic information. The GastroPanel report is intended for healthcare professionals only. Final diagnosis must be made by the physician

* GastroPanel reference values may be subject to changes following new clinical trial data.

More information > www.gastropanel.com

Literature

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Innovating for Health

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GastroPanel®

QUICK GUIDE

Stomach health test from blood sample

- A reliable means to differentiate healthy and non-healthy stomach
- Helps detecting patients who need further examinations
- Easy to perform in association with other blood tests, a 4-hour fasting is sufficient

BIOHIT HealthCare
Innovating for Health

GastroPanel test for the first-line diagnosis of dyspepsia

A biomarker panel from a blood sample, which measures the structure and function of stomach mucosa.

- Finds patients with a healthy stomach
- Detects reliably gastritis and *H. pylori* infection.
- Detects the often asymptomatic atrophic gastritis, with or without of *H. pylori* infection.
- Gives accurate information about gastric acid output.
- Discloses the subjects at increased risk of gastric cancer and peptic ulcer.
- Helps evaluating the risk for malabsorption of vita min B12, calcium (osteoporosis), iron, magnesium, zinc and some medicines.
- With GastroPanel, unnecessary gastroscopies will be avoided.

Risks associated with atrophic gastritis:

- Gastric cancer (corpus and/or antral atrophy)
- Malabsorption of vitamin B12, calcium, magnesium, zinc, iron and some medicines. (corpus atrophy)

***Helicobacter pylori* infection is an independent risk factor for both gastric cancer and peptic ulcer disease.**

Over 1 000 000 patients have been tested with GastroPanel worldwide.

BIOHIT HealthCare

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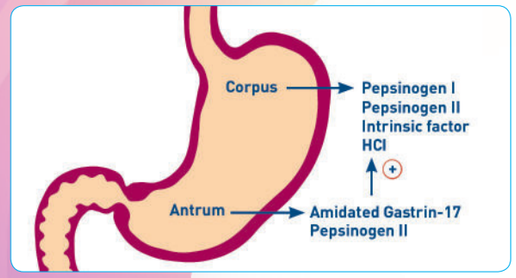
Stomach specific biomarkers



The GastroPanel examination measures four biomarkers in a fasting blood sample: *Helicobacter pylori* antibodies, pepsinogen I and II amidated gastrin-17.

Helicobacter IgG antibodies *(H. pylori* IgG*)*

Helicobacter pylori only infects the gastric mucosa. The infection is usually acquired in childhood and causes an inflammation (gastritis), which, if untreated, becomes chronic and life-long. The infection is common particularly among elderly people. In many infected persons, the gastric mucosa becomes atrophic over the course of decades. Gastritis and atrophy can increase the risk of various diseases (stomach cancer, duodenal ulcer, peptic ulcer) and malabsorption of vitamin B12, iron, calcium and magnesium. Antibody level exceeding 30 EIU* indicates a probable Helicobacter infection.

Pepsinogen I (PGI)

The serum levels of pepsinogen I reflect both the structure and function of corpus mucosa. When the corpus becomes atrophic, pepsinogen I concentration in the blood falls under 30 µg/l.*

Pepsinogen II (PGII)

The serum concentration of pepsinogen II is another indicator of the structure and function of gastric mucosa. Output of pepsinogen II often increases when gastric mucosa becomes inflamed (threshold 15 µg/l*). The most common cause is a *Helicobacter pylori* infection, but occasionally some other factors may cause gastritis: e.g. analgesic drugs (painkillers), strong liquor, strong spices, bile reflux.

Pepsinogen I/Pepsinogen II (PGI / PGII) ratio

The pepsinogen I/pepsinogen II ratio falls markedly (< 3)* when the gastric corpus is atrophic.

Basal Gastrin-17 (G-17b)

The concentration of gastrin-17 in the blood (fasting concentration) is an indicator of the structure and function of the stomach antrum. Biohit's monoclonal antibody measures only the level of amidated gastrin-17 peptide, which has a specific receptor only in parietal cells.
Gastrin-17 is secreted solely by the G cells in the antrum. It accelerates the secretion of hydrochloric acid in the parietal cells of the corpus. A gastrin-17 level above 7 pmol/l usually indicates an anacidic stomach (e.g. the patient is on PPI medication or has an atrophy limited to the corpus). As the acidity (pH < 2.5) of stomach contents increases, gastrin-17 level in the blood falls. The gastrin-17 level also falls in atrophic antral mucosa, since the G cells disappear. A low level* of gastrin-17b can therefore indicate either an atrophy of the antral mucosa or an increased acid output in corpus.

Stimulated Gastrin-17 (G-17s)

To differentiate between antral atrophy and increased acid output, gastroscopy can be performed, or gastrin-17 response can be measured after protein stimulation. A low level of stimulated gastrin-17 (< 3 pmol/l*) can indicate atrophic gastritis in the antrum.

* GastroPanel reference values may be subject to changes following new clinical trial data.

GastroPanel® – interpretation guide snapshot

Structural and functional causes of dyspeptic symptoms diagnosed by GastroPanel test (PGI, PGII, PGI/PGII, G-17, Hp-Ab)

PGI, PGII, PGI/PGII, G-17b Normal; Hp-	PGI, PGII, PGI/PGII Normal or High; Hp-; G-17b High	PGI, PGII, PGI/PGII Normal, Hp-; G-17b Low	PGI, PGII, G-17b High; PGI/PGII Normal, Hp-	PGI, PGII, PGI/PGII, G-17 Normal or High; Hp+	PGI or PGI/PGII Low; G-17b High; Hp+ or Hp-	PGI, PGI/PGII Normal; G-17b Low; Hp+	PGI Low, PGII Normal or Low; PGI/PGII Low, G-17b Low, Hp+
Healthy stomach mucosa	Healthy stomach mucosa, patient possibly on PPI treatment; stomach is hypochlorhydric	Healthy stomach mucosa; high acid output is likely	Short (4-10-day) pause in PPI treatment	Superficial, non-atrophic H.pylori (Hp) gastritis	Atrophic gastritis in the corpus	Atrophic gastritis in the antrum	Atrophic pangastritis
No need for gastroscopy	No need for gastroscopy	No need for gastroscopy; GERD or NERD conceivable	PGI and PGII need more time than G-17b to turn normal	Eradicate Hp and consider gastroscopy if symptoms	Gastroscopy mandatory		

Normal structure | Referral to General Practitioner | Referral to Specialist; gastroscopy/biopsy

The GastroPanel report contains a more detailed interpretation.

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