

Ghrelin Level in Syndrome Dyspepsia

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Syndrome dyspepsia is quite commonly found in physician practice daily worldwide.¹ The causes of syndrome dyspepsia can be divided into organic and functional.² The causes of organic dyspepsia are severe gastritis, peptic ulcer, and gastric cancer, which is associated with *Helicobacter pylori* infection. While the cause of functional dyspepsia are motility disorders, gastric emptying disorders, stress etc.³ In normal gaster we found ghrelin, leptin, motilin, cholecystokinin, etc. that play a role in gastric motility and appetite. Ghrelin and leptin plays a role in energy homeostasis.⁴

Leptin is produced by the adipocyte cells, serves to reduce the food intake and increase energy expenditure. While ghrelin otherwise serves lowering the energy expenditure and cause weight gain.⁴ Various studies reported that *Helicobacter pylori* infection in the stomach can increase the production of leptin and decrease the production of ghrelin, which can lead to obesity and diabetes mellitus.⁵ In chronic gastritis associated *Helicobacter pylori*, it was found that the levels of ghrelin was low.^{6,7} Some studies found that ghrelin levels were lower in functional dyspepsia (FD) and post-prandial distress syndrome (PDS) than normal people.^{8,9} Whereas in peptic ulcer disease (gastric and duodenal) showed that the ghrelin levels were higher than gastritis/non-ulcer in rats.¹⁰

Cahyono et al in their study found that acylated ghrelin plasma levels of functional dyspepsia patients (when fasting) was lower than those of healthy people. These results were consistent with the results of the world reported similar results, with lower levels of ghrelin in functional dyspepsia compared to normal people.

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