

## **Interplay between *Helicobacter pylori* Infection, Interleukin-11, and Leukemia Inhibitory Factor in Gastric Cancer among Egyptian Patients**

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### **Abstract**

*Helicobacter pylori* is a ubiquitous Gram-negative bacterium that is responsible for gastric mucosal inflammation. It is the most common risk factor for gastric cancer (GC). The current study aimed to investigate the association between interleukin-11 (IL-11) and leukemia inhibitory factor (LIF) levels among *H. pylori*-infected Egyptian patients with gastritis and GC. One hundred forty-seven patients with gastric lesions were endoscopically biopsied and assessed using rapid urease test and immunohistochemistry. Quantitative real-time polymerase chain reaction was done for the detection of *H. pylori* load in gastric biopsies and detection of LIF as well as IL-11 relative gene expression. The mean values of *H. pylori* load, LIF, and IL-11 were significantly elevated in GC patients compared to gastritis group ( $P < 0.0001$ ). A positive significant correlation was detected between mucosal levels of LIF, IL-11, and *H. pylori* load in both groups. Both LIF and IL-11 had the same pattern of expression in gastric tissues with different types of gastritis and different types and grades of gastric carcinoma. This report could clarify the molecular events associated with the immune response against *H. pylori* infection and *H. pylori*-associated pathology. Therefore, development of immunotherapy strategies against *H. pylori*-induced cytokines becomes inevitable.