

Detection of Helicobacter Pylori by PCR and ELISA Methods in Patients with Hyperlipidemia

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Abstract : Hyperlipidemia refers to any of several acquired or genetic disorders that result in a high level of lipids circulating in the blood. Helicobacter pylori infection is a contributing factor in the progression of hyperlipidemia with serum lipid changes. The aim of this study was to detect of Helicobacter pylori by PCR and serological methods in patients with hyperlipidemia. In this case-control study, 174 patients with hyperlipidemia and 174 healthy controls were studied. Also, demographics, physical and biochemical parameters were performed in all samples. The DNA extracted from blood specimens was amplified by H pylori cagA specific primers. The results show that H. pylori cagA positivity was detected in 79% of the hyperlipidemia and in 56% of the control group by ELISA test and 49% of the hyperlipidemia and in 24% of the control group by PCR test. Prevalence of H. pylori infection was significantly higher in hyperlipidemia as compared to controls. In addition, patients with hyperlipidemia had significantly higher values for triglyceride, total cholesterol, LDL-C, waist to hip ratio, body mass index, diastolic and systolic blood pressure and lower levels of HDL-C than control participants (all $p < 0.0001$). Our result detected the ELISA was a rapid and cost-effective detection and considering the high prevalence of cytotoxic H. pylori strains, cag A is suggested as a promising target for PCR and ELISA tests for detection of infection with toxigenic strains. In general, it can be concluded that molecular analysis of H. pylori cagA and clinical parameters are important in early detection of hyperlipidemia and atherosclerosis with H. pylori infection by PCR and ELISA tests.

Keywords : Helicobacter pylori, hyperlipidemia, PCR, ELISA

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