Manar Atoum et al., J Microb Biochem Technol 2015, 5:4
http://dx.doi.org/10.4172/1948-5948.S1.013

OMICS International
conferenceseries.com

World Congress and Expo on
Applied Microbiology
August 18-20, 2015 Frankfurt, Germany

Methyltetrahydrofolate reductase and its relationship with vitamin B-12 and *Helicobacter pylori* infection

Manar Atoum, Rami Khasawneh and Mohammad Mansour
Hashemite University, Jordan

Background: Genetic polymorphisms of Methylentetrahydrofolate reductase (MTHFR) have significant roles in developing diseases including *Helicobacter pylori* infection. This association may be mediated through vitamin B-12 deficiency. The aim of this study is to determine any relationship between (c.677C>T) mutation of MTHFR gene, vitamin B-12 deficiency and *H. pylori* infection among thrombophilic patients.

Methods: A cross sectional study was designed for 130 patients with pulmonary embolism (PE), deep venous thrombosis (DVT) and recurrent abortion from AL Hussein medical city (Amman, Jordan). Laboratory investigations were carried out for vitamin B-12 measurement, *H. pylori* infection (IgG and IgA) and MTHFR (c.677C>T) gene polymorphisms.

Results: This study showed that the frequency of vitamin B-12 deficiency among thrombophilic patients was 15%, 81% were chronically infected, while 38% were acutely infected with *H. pylori*. The frequency of MTHFR (c.677C>T) gene polymorphis: wild type 41%, homozygous 14% and heterozygous 45%. There is a significant relationship between *H. pylori* chronic infection and MTHFR (c.677C>T) gene polymorphism among wild type, homozygous and heterozygous patients. All thrombophilic patients with homozygous MTHFR (c.677C >T) were chronically infected with *H. pylori*. No statistical significant relationship between MTHFR (c.677C>T) gene polymorphism and vitamin B-12 level and no statistical significant relationship was observed between the concentration of vitamin B-12 and *H. pylori* infection.

Conclusion: A significant relationship between chronic infection with *H. pylori* and MTHFR (c.677C>T) gene polymorphism. All thrombophilic patients with homozygous MTHFR (c.677C >T) were chronically infected with *H. pylori*.

Notes: