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Is vitamin B12 serum level involved in the spread of *Helicobacter pylori*?

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Dear Sir,

the relationship between *Helicobacter pylori* (*H.pylori*) and the deficiency of important and vital elements, including iron, vitamins and other micronutrients has been reported in a great number of articles worldwide.[1] The main pathogenetic mechanism responsible for these manifestations is the modification of the gastric environment that affects the absorption of both nutrients and drugs.[2]

In a recent interesting study of Moosazadeh et al., an important relationship between the prevalence of *H.pylori* and serum levels of vitamin B12 in women was found, showing that the prevalence of this infection was significantly higher in patients with serum lower levels of vitamin B12, compared to individuals with normal levels. The authors concluded that "vitamin B12 serum level is a determining factor in the spread of *H.pylori* and there is an inverse relationship between the two variables".[3]

Apparently, there is no consistent plausibility to support the former part of this conclusion. Literature data have reported that *H.pylori* has an important role in the pathogenesis of vitamin B12 deficiency and pernicious anemia.[4] Various studies showed that a result of *H.pylori*-induced gastritis is the damage of parietal cells which are important for the production of intrinsic factor, essential for vitamin B12 absorption, and eradication of the infection has been shown to result in improved blood levels of vitamin B12.[5] It was also demonstrated that antacid drugs used by infected symptomatic subjects and the modification of the intragastric pH caused by *H.pylori* are the main factors of malabsorption of vitamin B12. Annibale *et al*. described the presence of *H.pylori* -related gastritis as the unique pathological finding in 57.1% of patients with macrocytic anemia caused by B12 deficiency.[6]

In conclusion, it is clear from all data mentioned above that an inverse relationship between *H.pylori* and B12 serum levels is a real fact, but evidences from literature and clinical experience show a fundamental role of *H.pylori*, as an aetiologic factor, in determining vitamin B12 levels instead of the role of B12 vitamin in the spread of *H.pylori*, as Moosazadeh et al. concluded in their study. [3]

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