

***Helicobacter Pylori* and Insulin Resistance Association: Not Just a Myth, Not Yet a Fact**

Sir,

We read with interest the study of Albaker,^[1] summarizing the evidence for the association between *Helicobacter pylori* (*Hp*) infection and metabolic syndrome (MetS)-related morbidity, including cardiovascular disease, the endpoint of MetS. Insulin resistance (IR) is a key pathogenetic factor in MetS. Despite its various definitions and the criticism regarding its clinical usefulness, the concept of MetS improves our understanding of the pathophysiology of IR and its metabolic and vascular consequences.^[2] The association of *Hp* infection and MetS seems to be appealing, given that: a) almost half of the world's population is affected by *Hp* infection; b) the prevalence of MetS is increasing worldwide and, c) if an association is proved, *Hp* eradication might have a beneficial effect on MetS-related morbidity. However, as reported by Albaker, the existing evidence is controversial.^[1] This may be partly attributed to the fact that different studies have adopted different criteria for MetS and also different criteria for the diagnosis of *Hp* infection.^[3] MetS has been defined by different semi-quantitative or non-quantitative criteria, such as those of the World Health Organization, the European Group for the Study of IR, the American Association of Clinical Endocrinologists, the National Cholesterol Education Program-Adult Treatment Panel III,

and the International Diabetes Foundation. Furthermore, the diagnosis of *Hp* infection was set by serum anti-*Hp* specific IgG antibodies, rapid urease test, urea breath test, or stool antigen test, and not always by histologic detection of organisms in mucosal biopsy specimens, which is considered the practical diagnostic gold standard.^[3]

We have previously published a systematic review summarizing the epidemiologic evidence concerning the association between *Hp* infection and IR quantitative-only indices.^[3] The homeostatic model of assessment of IR (HOMA-IR) was used in all studies to quantify IR. There appeared to be a trend towards a positive association between *Hp* infection and HOMA-IR, which was strengthened by regression analysis in one study.^[4] More specifically, when the study groups were divided according to *Hp* status (negative or positive), higher HOMA-IR was found in all but one study.^[3] However, there was significant heterogeneity between studies with regard to the method(s) used for diagnosis of *Hp* infection and to the population differences among different studies. The studies on the effect of *Hp* eradication on HOMA-IR also revealed conflicting results, but there were methodological differences between them.

In conclusion, existing data indicate that the association between *Hp* infection and IR is more than a myth; however, further studies are needed to elucidate whether any causative link exists that may have potential therapeutic benefits.

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