Endothelial Dysfunction is Reversible in Helicobacter Pylori Positive Subjects

Blum, Arnon[1]; Tamir, Snait[2]; Mualem, Keren[3]; Ben Shushan, Rotem[4]; Keinan Boker, Lital[5]; Paritsky, Maya[6]

[1]Baruch Padeh Poria Hospital, Tiberias, Israel; [2]Laboratory of Human Health and Nutrition Sciences, MIGAL-Galilee Technology Center, Human Health and Nutrition Sciences, Kiryat Shmona, Israel; [3]Ruth and Baruch Rappaport Faculty of Medicine, Technion Institute of Technology, Haifa, Israel; [4]MIGAL-Galilee Technology Center, Laboratory of Human Health and Nutrition Sciences, Kiryat Shmona, Israel; [5]School of Public Health, Haifa University, Epidemiology, Haifa, Israel; [6]Baruch Padeh Poria Hospital, Gastroenterology, Tiberias, Israel

Background: Epidemiological studies have shown an association between Helicobacter Pylori (HP) infection and atherosclerosis. Although epidemiological studies have suggested a relationship between HP infection and atherosclerosis it is not clear whether HP eradication will improve vascular inflammation, reverse endothelial damage and prevent future cardiovascular events.

Methods: 31 subjects (16 males, 15 females; 50.8±16.7 y) with dyspepsia were diagnosed as HP positive using antral histopathologic evalutaion. 11 subjects with dyspepsia (5 males, 6 females; 55.4±9.3 y) that were negative to HP served as controls.

Vascular measurements (ABI and endothelial function [FMD%]) were done on entry to the study and 3 months afterwards. HP+ subjects were treated with the triple therapy.

Results: HP+ subjects had severe endothelial dysfunction (FMD% of -1.26±8.4%) that improved significantly after treatment (8.4±9.0%) (p=0.001). HP- subjects had endothelial dysfunction (FMD% of 1.9±9.7%) that was not improved (5.6±8.3%) (p=0.41). Neither HP+ nor HP- subjects changed their ABI (p=0.46) and (p=0.51).

Conclusions: HP eradication can improve endothelial dysfunction significantly and may prevent atherosclerosis and future cardiovascular events.

	HP+	HP -
FMD % P-value	Before Rx 3 m after -1.26±8.4 8.4±9.0 0.001	Before Rx 3 m after 1.9±9.7 5.6±8.3 0.41
ABI P-value	1.2±0.2 1.2±0.2 0.46	1.2±0.2 1.3±0.2 0.51

< HP+ HP - Before Rx 3 m after Before Rx 3 m after FMD % -1.26±8.4 8.4±9.0 1.9±9.7 5.6±8.3 P-value 0.001 0.41 ABI 1.2±0.2 1.2±0.2 1.2±0.2 1.3±0.2 P-value 0.46 0.51