

THE ASSOCIATION BETWEEN HELICOBACTER PYLORI AND PARKINSON'S DISEASE

Lihie Eisenberg<sup>1</sup>, Nir Giladi<sup>2,4</sup>, Chava Peretz<sup>1</sup>

<sup>1</sup>*Epidemiology, Tel Aviv University, Israel*

<sup>2</sup>*Neurology, Tel Aviv Sourasky Medical Center, Israel*

<sup>3</sup>*Nursing, Tel Aviv University, Israel*

<sup>4</sup>*Sagol School of Neuroscience, Tel Aviv University, Israel*

**Background:** Epidemiological studies provided controversial results on the association between H. pylori infection and the risk for Parkinson's disease (PD). We aimed to evaluate this association in a large-scale cohort of subjects, who underwent H. pylori breath tests

**Methods:** We established a population-based cohort of 118,531 subjects, who underwent H. pylori breath tests (age 35+ at test date, period:2002-2012, members of Maccabi Health- Services). A linkage with a PD cohort, yielded 549 new PD cases. Cox proportion hazard models were applied to evaluate HR and 95%CI for PD associated with H. pylori breath test result (positive/negative); by sex, accounting to age, socioeconomic status and comorbidities.

**Results:** Men with positive H. pylori breath test results were at a significantly lower risk for PD [HR=0.65 (95% CI 0.48-0.88)]. When the risk was adjusted to confounders, the effect was non-significant yet the trend was kept [HR= 0.87 (95% CI 0.64-1.17)]. The proportion of PD patients who performed breath tests before PD diagnosis was almost two-fold higher than those who performed the test after PD diagnosis, suggesting an association between H. pylori testing and PD. The risk for a positive H. pylori breath test result was significantly lower for PD patients who performed the test either before or after PD diagnosis, as compared to non-PD patients.

**Conclusions:** Our results suggest that H. pylori-like symptoms might be a risk factor for PD. Therefore, we propose that H. pylori negative elderly subjects, that experience H. pylori-like symptoms, should be monitored for early signs of PD development.

