

Letter to the Editor

Association of carotid intima-media thickness and serum paraoxonase activity

Dear Editor,

We read the article by Mete and co-workers¹ entitled "Carotid intima-media thickness and serum paraoxonase-1 activity in patients with *Helicobacter pylori*". The authors¹ aimed to evaluate serum paraoxonase (PON)-1 activity and carotid intima-media thickness (CIMT) in patients with Cytotoxin-associated antigen (CagA)-positive and negative *Helicobacter pylori* strains. They found increased CIMT and decreased PON-1 levels in CagA-positive *Helicobacter pylori* group, and they concluded that decreased PON-1 levels could be associated with atherosclerosis especially in CagA-positive *Helicobacter pylori* patients. Although we commend the authors for the excellent data that they have provided, some comments may be of beneficial.

A decrease in serum PON-1 activity can be observed as a part of inflammatory responses². Although chronic decrease in PON-1 activity could increase susceptibility to atherosclerosis, acute declines due to intercurrent acute inflammatory conditions could exacerbate LDL oxidation and trigger the atherosclerotic process². Jha et al³ showed the association between *Helicobacter pylori* and inflammatory markers such as C-reactive protein (CRP) and interleukin (IL)-6, suggesting an important role of *Helicobacter pylori* in the development of atherosclerosis by induction of inflammation.

It has been showed that low serum PON-1 activity could be associated with diseases such as hypercholesterolemia and renal failure in addition to diabetes mellitus, hypertension, infectious, rheumatologic and cardiovascular diseases^{4,5}. Also, Paragh et al⁶ reported that lipid-lowering drugs and fibric acid derivatives could raise serum PON-1 activity in accordance with the increase in high-density lipoprotein levels.

In conclusion, analysing an inflammatory status (CRP, IL-6 or leukocyte count) and giving medical histories/medication details in more detail could help in understanding the study's results better. Also, performed correlation analysis between CIMT and PON-1 levels, and regression analysis to estimate the quantitative effect of the *Helicobacter pylori* infection, CagA and PON-1 levels upon the CIMT; the study could have been more valuable.

Conflict of Interest

The Authors declare that they have no conflict of interests.

References

- 1) METE R, ORAN M, ALPSOY S, GUNES H, TULUBAS F, TURAN C, TOPCU B, AYDIN M, YILDIRIM O. Carotid intima-media thickness and serum paraoxonase-1 activity in patients with *Helicobacter pylori*. *Eur Rev Med Pharmacol Sci* 2013; 17: 2884-2889.
- 2) VAN LENTEN BJ, HAMA SY, DE BEER FC, STAFFORINI DM, MCINTYRE TM, PRESCOTT SM, LA DU BN, FOGELMAN AM, NAVAB M. Anti-inflammatory HDL becomes pro-inflammatory during the acute phase response. *J Clin Invest* 1995; 96: 2758-2767.
- 3) JHA HC, PRASAD J, MITTAL A. High immunoglobulin A seropositivity for combined *Chlamydia pneumoniae*, *Helicobacter pylori* infection, and high-sensitivity C-reactive protein in coronary artery disease patients in India can serve as atherosclerotic marker. *Heart Vessels* 2008; 23: 390-396.
- 4) DAUTOINE TF, DEBORD J, CHARMES JP, MERLE L, MARQUET P, LACHATRE G, LEROUX-ROBERT C. Decrease of serum paraoxonase activity in chronic renal failure. *J Am Soc Nephrol* 1998; 9: 2082-2088.
- 5) KAYA Z, SALIH AYDIN M, HAZAR A, CAN ATA E, SEZEN H, YILDIZ A, DEMIRBAG R, AKSOY N. Association of serum paraoxonase activity and coronary artery calcification. *Eur Rev Med Pharmacol Sci* 2013; 17: 2121-2126.
- 6) PARAGH G, BALOGH Z, SERES I, HARANGI M, BODA J, KOVACS P. Effect of gemfibrozil on HDL-associated serum paraoxonase activity and lipoprotein profile in patients with hyperlipidaemia. *Clin Drug Invest* 2000; 19: 277-282.

E. Yalcinkaya, M. Celik¹, B. Bugan²

Department of Cardiology, Aksaz Military Hospital, Mugla, Turkey

¹Department of Cardiology, Gulhane Military Medical Faculty, Ankara, Turkey

²Department of Cardiology, Malatya Military Hospital, Malatya, Turkey