



Influence of vitamin C and E supplementation on the eradication rates of triple and quadruple eradication regimens in *Helicobacter pylori* infection

To the Editor,

The effect of vitamins C and E on *Helicobacter pylori* eradication was assessed by adding them to standard triple and bismuth-based quadruple regimes by Demirci et al. (1). We read the literature with great interest. In their study, vitamins E and C were added to triple and quadro regimes at 100 IU/day and 500 mg/day, respectively. While citing our study, they incorrectly mentioned the doses as vitamin C at 500 mg/day and vitamin E at 200 IU/day (2). However, we used vitamin C at doses of 1000 mg/d and vitamin E at 400 IU/day in our study and also explained the basis of using the vitamins at those doses. However, the authors failed to define the basis of vitamin doses used (3). Some previous studies use the same methodology and vitamin doses as those employed in the study of Demirci et al. (1,4,5). In our study, we used therapeutic doses of vitamins according to the recommendations in literature. Higher doses of vitamins were shown to be better for the eradication of *H. pylori* in another study. Increasing the effectiveness of antibiotics through a repressed microenvironment (resulting in the decrease of radical oxygen species) created by *H. pylori* is the main role of these vitamins. To hope statistically high eradication response with low dose vitamins added group than those without vitamins added group may be a forced consideration.

In contrast, Demirci et al. (1) demonstrated a high eradication rate using triple therapy if considered our country's condition and did not explain reason of that. Finally, this study may be insufficient to prove the inadequacy of our previous three studies and reveal the efficacy of higher doses of vitamins.

Mesut Sezikli¹, Fatih Güzelbulut²,
Züleyha Akkan Çetinkaya³

¹Department of Gastroenterology, Kocaeli Training and Research Hospital, Kocaeli, Turkey

²Department of Gastroenterology, Haydarpaşa Training and Research Hospital, İstanbul, Turkey

³Department of Gastroenterology, Bahçeşehir University School of Medicine, Bahçeşehir University Hospital, İstanbul, Turkey

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - M.S., F.G.; Design - M.S.; Supervision - Z.A.Ç.; Materials - M.S.; Data Collection and/or Processing - M.S.; Analysis and/or Interpretation - Z.A.Ç.; Literature Review - M.S.; Writer - M.S., Z.A.Ç.; Critical Review - F.G.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study has received no financial support.

REFERENCES

- Demirci H, Uygun İlikhan S, Öztürk K, et al. Influence of vitamin C and E supplementation on the eradication rates of triple and quadruple eradication regimens for *Helicobacter pylori* infection. Turk J Gastroenterol 2015; 26: 456-60. [CrossRef]
- Plummer M, Vivas J, Lopez G, et al. Chemoprevention of precancerous gastric lesions with antioxidant vitamin supplementation: a randomized trial in a high-risk population. J Natl Cancer Inst 2007; 17: 137-46.
- Sezikli M, Akkan Cetinkaya Z, Sezikli H, et al. Oxidative stress in *Helicobacter pylori* infection: does supplementation with vitamins C and E increase the eradication rate? *Helicobacter* 2009; 14: 280-5. [CrossRef]
- Chuang CH, Sheu BS, Huang AH, et al. Vitamin C and E supplements to lansoprazole-amoxicillin-metronidazole triple therapy may reduce the eradication rate of metronidazole-susceptible *Helicobacter pylori* infection. *Helicobacter* 2002; 7: 310-6.
- Everett SM, Drake IM, White KL, et al. Antioxidant vitamin supplements do not reduce reactive oxygen species activity in *Helicobacter pylori* gastritis in the short term. Br J Nutr 2002; 87: 3-11.

Address for Correspondence: Mesut Sezikli

E-mail: drsezikli@hotmail.com

Received: March 1, 2016

Accepted: March 7, 2016

© Copyright 2016 by The Turkish Society of Gastroenterology • Available online at www.turkjgastroenterol.org • DOI: 10.5152/tjg.2016.16105

Author's Reply

To the Editor,

We would like to thank authors for their careful review of our study. They mentioned that our paper has some

issues when compared to their study. Therefore, we would like to explain some points about author criticisms and our study.

As the authors point out while citing that study, we have mentioned the doses as vitamin C at 500 mg/day and vitamin E at 200 IU/day. In fact, Sezikli et al. (2) have used vitamin C at doses of 1000 mg/d and vitamin E at 400 IU/day in their study (1). Instead of our previous statement of vitamin E (200 U) and vitamin C (500 mg) for 1 month, the dose of vitamin C and E supplementation should be correct as 500 mg (b.i.d) and 200 IU (b.i.d), respectively. Another point is that they enrolled patients with *Helicobacter pylori*-positive non-ulcer dyspepsia and low total antioxidant capacity (TAC) level. However, we did not evaluate TAC level of body at the beginning of the treatment. This is the major difference between two studies.

Another issue is a high eradication rate with triple therapy in our study, although resistant of triple therapy is high in our country. We believe that success of treatment and patient compliance will increase by more when both written and orally information in detail were given regarding drug use. We suggest that drug resistance can be different in each region of Turkey.

Sezikli et al. Influence of vitamin C and E supplementation

Hakan Demirci¹, Sevil Uygun İlikhan², Kadir Öztürk¹,
Yücel Üstündağ³, Ömer Kurt¹, Muammer Bilici²,
Furuzan Köktürk⁴, Ahmet Uygun¹

¹Department of Gastroenterology, Gülhane Military Medical Academy, Ankara, Turkey

²Department of Internal Medicine, Bülent Ecevit University School of Medicine, Zonguldak, Turkey

³Department of Gastroenterology, Bülent Ecevit University School of Medicine, Zonguldak, Turkey

⁴Department of Statistics, Bülent Ecevit University School of Medicine, Zonguldak, Turkey

REFERENCES

1. Demirci H, Uygun İlikhan S, Öztürk K, et al. Influence of vitamin C and E supplementation on the eradication rates of triple and quadruple eradication regimens for *Helicobacter pylori* infection. Turk J Gastroenterol 2015; 26: 456-60. [\[CrossRef\]](#)
2. Sezikli M, Akkan Cetinkaya Z, Sezikli H, et al. Oxidative stress in *Helicobacter pylori* infection: does supplementation with vitamins C and E increase the eradication rate? *Helicobacter* 2009; 14: 280-5. [\[CrossRef\]](#)