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## THE EFFICACY OF SUPPLEMENTATION OF VITAMIN D3 ON THE ERADICATION RATES OF CLARITHROMYCIN-BASED TRIPLE THERAPY FOR *HELICOBACTER PYLORI* INFECTION

**Mohamed EL Shahawy**

Al Azhar University, Egypt

**Background/Aim:** Because of the emergence of antibiotic resistance and adverse drug reactions, the successful eradication rates with the clarithromycin-based triple therapy are falling. The aim of this study was to assess the effect of supplementation of 1,25-hydroxy vitamin D3 on the eradication rates of Clarithromycin-based triple therapy for *Helicobacter pylori* (*H.pylori*) infection.

**Methods:** This study included 150 patients diagnosed with *H.pylori* gastritis using magnifying narrow-band imaging endoscopy (ME-NBI) supported by stool antigen test as a diagnostic gold standard. Serum 25-OH vitamin D levels was measured via Enzyme Linked Immune Sorbent assay (ELISA) method before starting eradication therapy. Patients were divided into two groups: Patients in group A (n=75) received amoxicillin, clarithromycin, and esomeperazol for 2 weeks. Patients in group B (n=75) received 1,25-hydroxy vitamin D3 for 4 weeks, in addition to amoxicillin, clarithromycin, and esomeperazol for 2 weeks. Stool antigen test was performed 4 weeks after the end of therapy to check the eradication rates. The eradication rates were assessed using per-protocol (PP) and intention-to-treat (ITT) analysis.

**Results:** Our results revealed that, eradication was achieved in 46 of 62 patients (74.19%) by PP and 46 of 75 (61.33%) by ITT analysis in group A while in group B, eradication was achieved in 60 of 68 patients (88.23%) by PP and 60 of 75 (80 %) by ITT analysis. The eradication rates in Group B was significantly higher than that of Group A (p= 0.012 in ITT analysis and p=0.029 in PP analysis). However, there were no statistically significant differences regarding serum 25-OH vitamin D level between these 2 groups and the mean 25-OH vitamin D level was  $28.9 \pm 10.6$  in group A and  $28.3 \pm 9.8$  in group B (p=0.268).

**Conclusions:** Our results demonstrated that supplementing vitamin D3 to Clarithromycin-based Triple Therapy could provide an additional advantage for achieving significantly higher eradication rates for *H. pylori* infection.

**Keywords:** Vitamin D3, Magnifying narrow band, *Helicobacter pylori* eradication