

# ENHANCING GASTRIC ULCER MANAGEMENT: NOVEL INSIGHTS FROM TERAZOSIN-PANTOPRAZOLE COMBINATION THERAPY

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## ABSTRACT

In this present study, we explored a novel approach to gastric ulcer management by investigating the therapeutic potential of terazosin, an alpha-1 adrenergic receptor inhibitor, in combination with pantoprazole, a common anti-ulcer agent. Employing an ethanol-induced rat-gastric ulcer model, the study demonstrated that terazosin pre-treatment significantly reduced ulcer formation, with the terazosin-pantoprazole combination exhibiting superior mucosal protection compared to pantoprazole alone. Histopathological analysis revealed preserved mucosal structure and reduced neutrophil infiltration, indicating an anti-inflammatory effect. At a molecular level, the combination treatment groups exhibited elevated levels of phosphoglycerate kinase 1 (PGK-1), a vital enzyme in cellular energy metabolism, while inflammatory markers I $\kappa$ B kinase (IKK) and interleukin-6 (IL-6) were significantly reduced, signifying mitigation of inflammation. These findings of the three different combinations of terazosin with pantoprazole indicate that this can be a potential approach for the treatment of gastric ulcers and can help in reducing the existing pantoprazole dose.