In vivo interaction studies of lisinopril with flurbiprofen and ibuprofen on carrageenan induced inflammation

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Background: Both anti-hypertensive and non-steroidal anti-inflammatory drugs are frequently prescribed together because hypertension and musculoskeletal problems are two of the frequent conditions.

Objectives: In vivo interaction studies of ACE inhibitor (Lisinopril) was carried out with commonly used NSAIDs flurbiprofen and ibuprofen in carrageenan induced inflammation (CII) rats to check the anti-inflammatory response of NSAIDs with lisinopril and alone.

Methodology: In our study, the altered anti-inflammatory response was observed for NSAIDs when given simultaneously with lisinopril by comparing decrease in paw size. Results were expressed in % reduction in paw size for every hour and were calculated for edema rate and percentage reduction using the formula, Edema rate (E%)=VT-VO/VO*100 Where, VO=Rat’s hind paw volume before 1% Carrageenan administration and VT=Rat’s hind paw volume at t hour. Percentage reduction (R %)=EC-ET/EC*100 Where, EC=Edema rate of control group and ET=Edema rate of test compound at t hour.

Results: The combination of lisinopril and NSAIDs showed decreased activity of NSAIDs as depicted by inhibition of % reduction and increase in edema rate. But since this study has certain limitation as a number of tested animals were small and the duration for which the anti-inflammatory response was checked for NSAIDs alone and in combination with ACE inhibitors was just few hours, further studies required to establish this relationship.

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