

## Abstract

### Introduction

An interaction has been reported between Nigella Sativa (NS) and ranitidine (RAN) on gastric ulceration induced by ethanol in rabbits; the combination NS and RAN caused disappearance of anti-ulcer effect of NS or RAN

### Aim

The current study was designed to investigate the effect of NS, OMP and their combination on gastric ulcer induced by alcohol in a rabbit model with a

special emphasis on whether the combination adversely affect the response produced by either treatment individually

### Materials and Methods

mature rabbits were divided into 4 groups. The animals were fasted 24 for 72 hours then treated as follow: group 1, 2, 3 and 4 were treated respectively with normal saline (oral), NS oil (10ml/kg) orally, OMP (20mg/kg) IP, and NS+ OMP

One hour later, animals were given absolute ethanol orally; and sacrificed 3 hours later for estimation of Ulcer index (UI), gastric pH, malondialdehyde (MDA), glutathione (GSH), histamine (HIS) levels in serum and gastric tissue

### Results

The results of the present study showed that NS or OMP reduced area of ethanol induced gastric ulceration (UI) from  $10 \pm 0.11$  mm in the control  $\pm$  to  $5.13$

mm in the group treated with NS,)P value = 0.07). A greater 0.68 reduction in UI was observed with OMP ( $10 \pm 0.11$  mm in the control vs  $0.27 \pm 0.44$  mm in OMP group, P value = 0.002). UI was found increased in the group of rabbits treated

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with the combination NS + OMP. UI achieved levels which was higher than that

of OMP ( $1.68 \pm 0.26$  mm in OMP + NS treated group vs  $0.27 \pm 0.44$  mm in the group treated with OMP only, P value = 0.018). OMP and to a lesser extent NS

significantly elevate gastric pH which was ( $p= 0.001$ ,  $p=0.004$ ) for OMP and NS respectively compared to the control value. The level of pH decreased again towards the control value in the combination .treatment

Malondialdehyde (MDA) in gastric tissue was  $91.56 \pm 60.3$  ng/ml in group

of rabbits treated with ethanol (control) which was reduced to  $53.81 \pm 19$  ng/ml in the group treated with NS and to  $74.47 \pm 24.9$  ng/ml in OMP treated group. The

MDA level increased in the group of rabbits treated with the combination NS + OMP to levels which were higher than either NS or OMP groups but statistical significance was achieved only between the combination group and NS treated group ( $83.66 \pm 20.8$  ng/ml in the combination group vs  $53.81 \pm 19$  ng/ml in the group treated with NS group, P value = 0.027). The effect of NS or OMP or their combination on .Glutathione (GSH) reacted in a similar way of MDA

Histamine level in gastric tissue was  $10.56 \pm 1.92$  ng/ml in the group treated with ethanol which was significantly reduced to  $6.3 \pm 1.43$  ng/ml in NS group (P value = 0.001) and to  $7.14 \pm 0.78$  ng/ml in OMP group (P value = 0.002). The level of gastric tissue histamine raised again in the group treated with combination NS+OMP to  $8.59 \pm 1.88$  ng/ml which was significantly higher than NS group ( P value = 0.04) and also higher than OMP treated group although it did not achieve

.statistical significance

### Conclusion

Combination of NS with OMP partially reduced the gastro-protective  
.effect produced by NS or OMP when given individually

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