8. SUMMARY AND CONCLUSION

- 5ASA (100 mg/kg, p.o; for 18 days), Prednisone (5mg/kg, p.o for 18 days), Dicyclomine (10mg/kg, p.o. for 18 days), Aspargus Racemosus (200mg/kg, p.o. for 18 days), 5-ASA + Prednisone (100 mg/kg + 5mg/kg, p.o. for 18 days), 5-ASA + Dicyclomine (100 mg/kg + 10mg/kg, p.o. for 18 days), 5-ASA + Aspargus Racemosus (100 mg/kg + 200mg/kg, p.o. for 18 days), Prednisone + Dicyclomine (5mg/kg + 10mg/kg, p.o. for 18 days), Prednisone + Aspargus Racemosus (5mg/kg + 200mg/kg, p.o. for 18 days), Dicyclomine + Aspargus Racemosus (10mg/kg + 200mg/kg, p.o. for 18 days), 5 - ASA + Prednisone + Dicyclomine (100 mg/kg + 5mg/kg + 10mg/kg, p.o. for 18 days), 5 - ASA + Prednisone + Aspargus Racemosus (100 mg/kg + 5mg/kg + 200mg/kg, p.o. for 18 days), 5 - ASA + Dicyclomine + Aspargus Racemosus (100 mg/kg + 10mg/kg + 200mg/kg, p.o. for 18 days), 5 - ASA + Prednisone + Dicyclomine + Aspargus Racemosus (100 mg/kg + 5mg/kg + 10mg/kg + 200mg/kg, p.o. for 18 days), 5 - ASA + Prednisone + Aspargus Racemosus (100 mg/kg + 5mg/kg + 200mg/kg, p.o. for 18 days), 5 - ASA + Dicyclomine + Aspargus Racemosus (100 mg/kg + 10mg/kg + 200mg/kg, p.o. for 18 days), Prednisone + Dicyclomine + Aspargus Racemosus (10mg/kg + 200mg/kg, p.o. for 18 days), 5 - ASA + Prednisone + Dicyclomine + Aspargus Racemosus (100 mg/kg + 5mg/kg + 10mg/kg, p.o. for 18 days), 5 - ASA + Prednisone + Aspargus Racemosus (100 mg/kg + 5mg/kg + 200mg/kg, p.o. for 18 days), 5 - ASA + Dicyclomine + Aspargus Racemosus (100 mg/kg + 10mg/kg + 200mg/kg, p.o. for 18 days), Prednisone

regained the body weight, food intake, water intake and stool consistency which was decreased by N-ethylmaleimide (NEM) suggesting their possible beneficial role in IBD.

- The changes in colon length and colon weight induced by NEM were reversed by pretreatment with 5ASA (100 mg/kg, p.o; for 18 days), Prednisone (5mg/kg, p.o. for 18 days), Dicyclomine (10mg/kg, p.o. for 18 days), Aspargus Racemosus (200mg/kg, p.o. for 18 days), 5-ASA + Prednisone (100 mg/kg + 5mg/kg, p.o. for 18 days), 5-ASA + Dicyclomine (100 mg/kg + 10mg/kg, p.o. for 18 days), 5-ASA + Aspargus Racemosus (100 mg/kg + 200mg/kg, p.o. for 18 days), Prednisone + Dicyclomine (5mg/kg + 10mg/kg, p.o. for 18 days), Prednisone + Aspargus Racemosus (5mg/kg + 200mg/kg, p.o. for 18 days), Dicyclomine + Aspargus Racemosus (10mg/kg + 200mg/kg, p.o. for 18 days), 5 - ASA + Prednisone + Dicyclomine (100 mg/kg + 5mg/kg + 10mg/kg, p.o. for 18 days), 5 - ASA + Prednisone + Aspargus Racemosus (100 mg/kg + 5mg/kg + 200mg/kg, p.o. for 18 days), 5 - ASA + Dicyclomine + Aspargus Racemosus (100 mg/kg + 10mg/kg + 200mg/kg, p.o. for 18 days), Prednisone
+ Dicyclomine + Aspargus Racemosus (5mg/kg + 10mg/kg + 200mg/kg, p.o. for 18 days)

- **Tissue injury, degree of inflammation, disease activity index (DAI) and colon mucosal damage index (CMDI)** increased by NEM were substantially reduced by given drug/s treatments. Pretreatments of rats with 5ASA (100 mg/kg, p.o; for 18 days), Prednisone (5mg/kg, p.o. for 18 days), Dicyclomine (10mg/kg, p.o. for 18 days), Aspargus Racemosus (200mg/kg, p.o. for 18 days), 5-ASA + Prednisone (100 mg/kg + 5mg/kg, p.o. for 18 days), 5-ASA + Dicyclomine (100 mg/kg + 10mg/kg, p.o. for 18 days), 5-ASA + Aspargus Racemosus (100 mg/kg + 200mg/kg, p.o. for 18 days), Prednisone + Dicyclomine (5mg/kg + 10mg/kg, p.o. for 18 days), Prednisone + Aspargus Racemosus (5mg/kg + 200mg/kg, p.o. for 18 days), Dicyclomine + Aspargus Racemosus (10mg/kg + 200mg/kg, p.o. for 18 days), 5-ASA + Prednisone + Dicyclomine (100 mg/kg + 5mg/kg + 10mg/kg, p.o. for 18 days), 5-ASA + Prednisone + Aspargus Racemosus (100 mg/kg + 5mg/kg + 200mg/kg, p.o. for 18 days), 5-ASA + Dicyclomine + Aspargus Racemosus (100 mg/kg + 10mg/kg + 200mg/kg, p.o. for 18 days), Prednisone + Dicyclomine + Aspargus Racemosus (5mg/kg + 10mg/kg + 200mg/kg, p.o. for 18 days) significantly attenuated the extent & severity of the histological signs of cell damage.

- **The given drug/s treatments prevented the increase in colon nitric oxide (NO), myeloperoxidase (MPO) and malondialdehyde (MDA) and decrease in superoxide dismutase (SOD) level** induced by NEM suggesting their protective effect against oxidative stress.

- The drug combination therapy gives better effects than the single drug but the liver histopathology & serum enzyme level studies shows multiple drug/s combination produce at some extent liver damaging effects.
Thus 5ASA (100 mg/kg, p.o; for 18 days), Prednisone (5mg/kg, p.o. for 18 days), Dicyclomine (10mg/kg, p.o. for 18 days), Aspargus Racemosus (200mg/kg, p.o. for 18 days), 5-ASA + Prednisone (100 mg/kg + 5mg/kg, p.o. for 18 days), 5-ASA + Dicyclomine (100 mg/kg + 10mg/kg, p.o. for 18 days), 5-ASA + Aspargus Racemosus (100 mg/kg + 200mg/kg, p.o. for 18 days), Prednisone + Dicyclomine (5mg/kg + 10mg/kg, p.o. for 18 days), Prednisone + Aspargus Racemosus (5mg/kg + 200mg/kg, p.o. for 18 days), Dicyclomine + Aspargus Racemosus (10mg/kg + 200mg/kg, p.o. for 18 days), 5 - ASA + Prednisone + Dicyclomine (100 mg/kg + 5mg/kg + 10mg/kg, p.o. for 18 days), 5 - ASA + Prednisone + Aspargus Racemosus (100 mg/kg + 5mg/kg + 200mg/kg, p.o. for 18 days), 5 - ASA + Dicyclomine + Aspargus Racemosus (100 mg/kg + 10mg/kg + 200mg/kg, p.o. for 18 days), Prednisone + Dicyclomine + Aspargus Racemosus (5mg/kg + 10mg/kg +200mg/kg, p.o. for 18 days ) significantly reduce the severity of the IBD induced by 0.1mL 3% NEM intracolonically administration in rats. The protective activity might be attributed to anti inflammatory, anti oxidant and by healing properties of drugs.