

Raw Japanese Quail Egg Produces Analgesic, Anti-Inflammatory and Gastro-Protective Effects in Rats

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Abstract : Over the years, Japanese quail egg has been in use in the management of diseases. The objective of this study was to evaluate the analgesic, anti-inflammatory and gastroprotective effects of raw Quail egg (yolk + albumin) in rats. Pain was assessed in rats by recording the latent period and writhing reflex, anti-inflammatory effect was determined using both motility and compression test, while the gastro-protective effects were assessed by observing the histology of the stomach after diclofenac-induced gastric ulcers and subsequent treatment with the quail egg. Rats were randomly assigned into 4 groups; Groups I: were the control non-treated (NT), Group II were treated with Tramadol 50 mg/kg/Os (TMD) or Indomethacin (IND) 5mg/kg/Os (positive control for the writhing reflex determination), while group III and IV were treated with 3 and 6g/kg of raw quail egg respectively). Groups treated with quail egg in both doses showed a significant increase in the latent period ($p < 0.05$) when compared to the control NT, but lower than the group treated with tramadol at 20mins interval ($p < 0.05$). Writing reflexes decrease in groups II, III, and IV compared to the NT group ($p < 0.05$). While motility increases significantly ($p < 0.05$) in groups II, compared to I ($p < 0.05$). Control non-treated rats showed a quicker and extensive response to compression using the Vanier calliper on the inflamed paw compared to groups II-IV ($p < 0.05$). Histological studies of the stomach revealed sloughing of the epithelia, cellular infiltration with micro abscesses in the non-treated, while groups treated concurrently with quail egg showed proliferation of the glandular epithelia and goblet cells, and those treated 30 minutes before diclofenac administration showed proliferation of glands and thickening of the squamous epithelia. This study showed that quail egg has analgesic, anti-inflammatory and gastro-protective potentials and can be used as adjuvant treatment whenever COX-2 enzymes inhibitors are indicated.

Keywords : analgesia, anti-inflammatory, gastroprotective effect, japanese quail egg

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