

Evaluation of Anti-Arthritic Activity of *Eulophia ochreatea* Lindl and *Zingiber cassumunar* Roxb in Freund's Complete Adjuvant Induced Arthritic Rat Model

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Abstract : Objective: To investigate the anti-arthritic activity of chloroform extract and Isolate 1 of *Eulophia ochreatea* Lindl and dichloromethane extract and Isolate 2 of *Zingiber cassumunar* Roxb in adjuvant arthritic (AA) rat model induced by Freund's complete adjuvant (FCA). Methods: Forty two healthy albino rats were selected and randomly divided into six groups. Freund's complete adjuvant (FCA) was used to induce arthritis and then treated with chloroform extract, isolate 1 and dichloromethane extract, isolate 2 for 28 days. The various parameters like paw volume, haematological parameters (RBC, WBC, Hb and ESR), were studied. Structural elucidation of active constituents isolate 1 and isolate 2 from *Eulophia ochreatea* Lindl and *Zingiber cassumunar* Roxb will be done using GCMS and H1NMR. Results: In FCA induced arthritic rats, there was significant increase in rat paw volume whereas chloroform extract and Isolate 1 of *Eulophia ochreatea* Lindl and dichloromethane extract and Isolate 2 of *Zingiber cassumunar* Roxb treated groups showed strong significant reduction in paw volume. The altered haematological parameters in the arthritic rats were significantly recovered to near normal by the treatment with extracts at the dose of 200 mg/kg. Further histopathological studies revealed the anti-arthritic activity of *Eulophia ochreatea* Lindl and *Zingiber cassumunar* Roxb by preventing cartilage and bone destruction of the arthritic joints of AA rats. Conclusion: Extracts and isolates of *Eulophia ochreatea* Lindl and *Zingiber cassumunar* Roxb have shown anti-arthritic activity. Decrease in paw volume and normalization of haematological abnormalities in adjuvant induced arthritic rats is significantly seen in the experiment. Further histopathological studies confirmed the anti-arthritic activity of *Eulophia ochreatea* Lindl and *Zingiber cassumunar* Roxb.

Keywords : arthritis, *Eulophia ochreatea* Lindl, Freund's complete adjuvant, paw volume, *Zingiber cassumunar* Roxb

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