Author's response to reviews

Title: Antiinflammatory evaluation of leaves of Plumeria acuminata

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Author’s response to reviews: see over
Abstract

Background: *Plumeria acuminata* belonging to the family Apocynaceae is widely distributed throughout the Southern parts of India. In traditional medicinal system different parts of the plant have been mentioned to be useful in a variety of diseases. The plant material is widely used as a purgative and remedy for diarrhoea; the milky juice is employed in the treatment of inflammation and rheumatism. The bark has been reported to be useful in hard tumors, diarrhoea and gonorrhoea. The objective of the study was to evaluate the antiinflammatory activity of methanol extract of leaves of *Plumeria acuminata* on carrageenan, dextran, histamine and serotonin-induced inflammation in rat hind paw oedema models.

Methods: Acute and chronic inflammation models were used to evaluate the anti-inflammatory activity of the extract. Wistar albino rats of either sex weighing 180-200 g were used. In acute model carrageenan, dextran, histamine and serotonin models were used to induce inflammation in rat hind paw and cotton pellet-induced granuloma method was used for chronic inflammation model. In each model four groups of six animals were used. In all the models Group I served as control (0.9% NaCl, 5 mlkg\(^{-1}\) b.w) and group IV as standard (Indomethacin, 10 mgkg\(^{-1}\) b.w). Group II and III received extract at the doses of 250 and 500 mgkg\(^{-1}\) b.w respectively.

Results: The methanol extract of *Plumeria acuminata* exhibited significant anti-inflammatory activity on the tested experimental animal models. The extract (500 mgkg\(^{-1}\) b.w) exhibited maximum antiinflammatory effect i.e., 30.51, 47.06, 34.48 and 32.50 % (P<0.001) at the end of 3 h with carrageenan, dextran, histamine and serotonin respectively. Administration of MEPA (500 mgkg\(^{-1}\) b.w) and indomethacin (10 mgkg\(^{-1}\) b.w) significantly reduced the formation of granuloma tissue induced by cotton pellet method at a rate of 45.06 and 51.57% respectively. The effect produced by the extract was comparable to that of indomethacin a prototype of a nonsteroidal antiinflammatory agent.

Conclusion: The results obtained in this study indicated that the methanol extract of *Plumeria acuminata* possess potent antiinflammatory activity in both acute and chronic models.
Date: 14.08. 06

From,

PROF. Mrs. MALAYA GUPTA,

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To,

Editor-in-Chief,

BMC Complementary and Alternative medicine.

Sub: Submission of revised manuscript entitled "Antiinflammatory evaluation of leaves of Plumeria acuminata".

Dear Sir,

Here by I am sending the revised manuscript entitled "Antiinflammatory evaluation of leaves of Plumeria acuminata" along with replies to the reviewer’s comments for publication in your esteemed Journal. I would be highly obliged if you acknowledge the receipt.

Thanking you,

Yours Faithfully

Malaya Gupta
Replies to the reviewer’s comments

Reviewer No1:

1. As per the suggestion of the learned referee the abstract have been modified.
2. As per the suggestion of the learned referee the bibliography have been checked thoroughly and the missing year of publications are incorporated.
3. The statistical significance was determined by using the student t-test. Values of $P<0.001$ were considered statistically significant. By typographical mistake it was missed in the manuscript. This inconvenience is regretted.
4. As per the suggestion of the learned referee the control treatment has been mentioned properly.
5. As per the suggestion of the learned referee the graphical representation of the results have been incorporated in the revised manuscript.

Reviewer No 2:

1. As per the suggestion of the learned referee the treatment of control animals (the dose of 0.9% normal saline) has been corrected as 5 mg/kg instead of 5 ml/kg.
2. As per the suggestion of the learned referee the word ‘moist weight’ of cotton pellet has been changed as ‘wet weight’ in the results and discussion.

Reviewer No 3:

1. As per the suggestion of the learned referee the traditional use of the plant in inflammatory conditions were highlighted in the revised manuscript.
2. As per the suggestion of the learned referee the 3rd line of method present in abstract was deleted.
3. The extract was evaluated for its CNS activity started between 15-30 min. From this we concluded that the extract absorbed with in 30 min, so we administered the extract 30 min prior to the carrageenan injection.
4. As per the suggestion of the learned referee the necessary corrections have been incorporated in the revised manuscript.