

Anti - inflammatory potential of the seeds of *Ocimum basilicum* Linn. in rats

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In the present study, the effect of the seeds of the plant *Ocimum basilicum* Linn. on inflammation induced by histamine and prostaglandins was studied. A total of 60 rats divided in 10 groups were used in this study. The experimental design was approved by IAEC. The increase in paw edema served as the index of inflammation and was measured using digital vernier calipers after injecting various edemogens such as histamine and PGF₂α. Petroleum ether fraction (400mg/kg, p.o) and ethanolic fraction (400mg/kg, p.o) of the seeds of *Ocimum basilicum* Linn. significantly inhibited the paw edema produced by histamine and PGF₂-α. These findings reveal that the seeds of the plant *Ocimum basilicum* Linn. possesses potent anti-inflammatory activity.

Key words : Anti-inflammatory, Histamine, Prostaglandins

INTRODUCTION

Ocimum basilicum Linn. (Labiatae) popularly known as Sweet basil is used in both Ayurvedic and Unani systems of medicine (Jain *et al.*, 1988). It is a small perennial, tropically growing shrub of Asian origin (Dhar *et al.*, 2002). *Ocimum* has been reported to possess anti-HIV (Yamasaki *et al.*, 1998), antimicrobial (Suppakul *et al.*, 2003), anti-oxidant (Javanmardi *et al.*, 2003), anti-ulcer (Singh and Majumdar, 1999), analgesic (Aziba *et al.*, 1999) and hypolipidemic properties (Zeggwagh *et al.*, 2007). The present study was designed to investigate the anti-inflammatory potential of the seeds of the plant *Ocimum basilicum* Linn in rats.

MATERIALS AND METHODS

Collection and identification of the plant material :

The seeds of the plant *Ocimum basilicum* Linn. were procured from C.C.S. Haryana Agriculture University, Hisar (Haryana) and were authenticated by Raw materials, Herbarium and Museum division of NISCAIR, New Delhi. A voucher specimen has been retained in the Department of Pharmaceutical Sciences, Guru Jambheshwar University of Science and Technology for future reference.

Preparation of the extract

500g of the seeds were collected and extraction was done for 72 hrs using petroleum ether as solvent using soxhlet apparatus. The filtrate was collected, marc was pressed and the seeds were again subjected to extraction with ethanol for three more days. After complete

extraction, the solvents were removed by distillation under reduced pressure and the residue was concentrated to dryness in vacuum to obtain petroleum ether and ethanolic fraction of the seeds of the plant (*Ocimum basilicum* Linn).

Drugs :

Histamine dihydrochloride was purchased from S.D. Fine Chemicals and Prostaglandins (PGF₂-α) from Sigma Chemicals, USA.

Instruments :

Digital vernier calipers (*Mitutoyo*, Japan) was used to measure the paw edema induced by various edemogens *i.e.* histamine and PGF₂-α.

Animals :

A total of 60 Wistar rats of either sex with an average weight ranging between 120-150g were used in this study. The animals were procured from Disease free Small Animal House, Chaudhary Charan Singh Haryana Agricultural University, Hisar and were housed under natural conditions with a 12 h light / dark cycle. The animals were fasted overnight before the investigations, but had free access to water during the study. The care of animals was taken as per the guidelines of IAEC, Guru Jambheshwar University of Science and Technology, Hisar constituted as per the specifications of CPCSEA, Ministry of Forest and Environment, Govt. of India.

Experimental protocol :

The procedure and technique described earlier (Bilici