ANTI-INFLAMMATORY ACTIVITY OF SOME TRADITIONAL MEDICINAL PLANTS
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ABSTRACT: The ethanol extract of roots, fruits and roots of solanum indicum and saccharum munja respectively and water soluble resin of commiphora myrrha were studied for anti-inflammatory activity against carrageenin induced oedema in rats, the significant anti-inflammatory activity were found in former two plants will slight anti inflammatory activity was observed in latter plant.

INTRODUCTION
Medicinal plants continue to be of interest for several reasons including lack of availability of a satisfactory therapy of several clinical conditions inflammatory disorders being one of them a common herb, Solanum indicum (roots fruits) was recently found to clinically benefit in asthma and bronchitis1, 2 Another herb Saccharum munja (roots) reportedly has novel kidney protective action and so on3. In caraka samhita, Solanum indicum is known as vrhati and indicated in inflammatory conditions (caraka samhita sutrasthana4)1 and resin of Commiphora myrrha is advised in swelling of bladder in Bhava prakash nighantu5.

MATERIALS AND METHODS
The fruits and roots of Solanum indicum were collected fro Jhansi the roots a of Saccharum munja were collected form ayurvedic garden of Dravyaguna department and resin of Commiphora myrrha was obtained from crude drug market of varanasi. All the samples were identified and the Dravyaguna department, Institute of medical sciences, banaras Hindu university.

Adult charles foster strain rats (100-150g) of either sex were sued for the anti-inflammatory activity, the rats were housed in colony cages and fed on standard hind-Lever pellet at a room temperature 25 ± 2°C and 45-55% relative humidity with light and dark cycles for 10 14 respectively.

The animals, in groups of 6, were fed the extracts of standard drugs one hour before the subplantar injection of carrageenin (0.1 ml of 1% suspension in normal seline) in right hind paws. The paw volume, upto the ankle joint, was measured before and at 4h after carrageenin by the plethysmographic method6. The increase in paw volume has been expressed as percent increase over control values recorded in terms of cm length of the mercury column, the test drugs were administered intraperitoneally 30 min or oral route 60 min prior to the carrageenin injection. Phenylbutazone (PBZ) was used as a standard anti-inflammatory drug. The results have been analysed by using student’s’t’ test.

RESULTS
Carrageenin induced pedal inflammation
Table I shows that *S. indicum* (roots) extract orally caused, in most doses, inhibition of the inflammation induced by carrageenin, while *S. munja* caused relatively less marked inhibition of oedema at higher doses only. However, *C. myrrha* resin failed to inhibit oedema significantly.

Table II shows that *S. indicum* (fruits) extract, administered by both oral and in route, but orally. The doses of 100mg.kg and 2000 mg/kg caused 100% mortality within 24h by in route.

No obvious adverse effects were noticed in any other group.

**DISCUSSION**

The results show that *S. indicum* (roots, fruits) extract possess anti-inflammatory activity in the preliminary screening studies by both oral and ip routes. Expect the ever high doses of 1000 mg/kg and above ip, the drug appeared to possess reasonable safety in acute studies.

Other two drugs, namely *S. munja* and *C. Myrrha* appeared to be devoid of anti-inflammatory activity when administered orally.

The present study confirm anti-inflammatory activity of *S. indicum* as stated in ancient ayurvedic literature.

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Table – I  
Effect of *S. indicum* (roots), *S. munja* (roots) and *C. Myrrha* (resin) on Carrgeenin- induced edema in albina rats

| Treatment and dose (mg/kg oral) | % increase in paw volume Mean ± SE | S.indicum | S. munja | C myrrha |
|---------------------------------|-----------------------------------|-----------|----------|----------|
| Control                         |                                   | 78.09 ± 0.39 (6) | 88.90 ± 8.64 (5) | 78.67 ± 3.89 (6) |
| PBZ 50 Drug                     |                                   | 34.91 ± .57 **** (6) | 38.53 ± 5.03*** (5) | 39.02 ± 8.01 **** (6) |
| 1                               |                                   | 47.15 ± 5.28*** (6) | - | - |
| 5                               |                                   | 46.14 ± 3.20 *** (6) | 92.11 ± 8.29 NS (5) | - |
| 10                              |                                   | 79.34 ± 2.06 NS (5) | 88.27 ± 4.35 NS (5) | - |
| 25                              |                                   | 74.29 ± 2.17 NS (5) | - | - |
| 50                              |                                   | 32.56 ± 8.23*** (6) | 78.38 ± 4.48 NS (6) | 82.65 ± 4.87NS (6) |
| 100                             |                                   | 61.94 ± 7.63NS (6) | - | - |
| 200                             |                                   | 58.18 ± 5.02** (6) | 65.64 ± 8.19 NS (6) | - |
| 300                             |                                   | 51.24 ± 9.01* (6) | - | - |
| 500                             |                                   | 9.64 ± 2.96**** (6) | 65.55 ± 4.48** (6) | 65.90 ± 5.15 NS (6) |
| 1000                            |                                   | 52.18 ± 8.76 NS (6) | - | - |
| 2000                            |                                   | 65.78± 3.40* (6) | 63.97 ± 6.94NS (5) | - |
| 3000                            |                                   | 27.28 ± 2.94**** (6) | - | - |

P value: ***P<0.001, ****P<0.1, ***P<0.1, **P<0.05, NS = Not significant in relation to respective control (‘t’ test)
Number in parentheses indicate number of animals.
Table – II

Effect of *S. indicum* (fruits) on Carrgeenin- induced oedema in albino rats

| Treatment and dose (mg/kg oral) | % increase in paw volume Mean ± SE | S.indicum (ip) | S.indicum (Oral) |
|---------------------------------|----------------------------------|----------------|-----------------|
| Control                         | 80.94 ± 5.30 (6)                 | 81.79 ± 914 NS (6) | 79.85 ± 8.29 (6) |
| PBZ 50 Drug                     | 19.07 ± 4.03**** (6)             | 61.50 ± 5.26 *** (6) | 36.24 ± 3.32**** (6) |
|                                 | 81.79 ± 914 NS (6)               | 70.76 ± 7.37NS (6) | -               |
|                                 | 66.38 ± 9.36 NS (6)              | 51.60 ± 276**** (6) | -               |
|                                 | 100% Mortality                  | 50.97 ± 5.01**** (6) | 76.40 V 5.61 NS (6) |
|                                 | 100                            | 42.13 ± 7.38 **** (5) | -               |
|                                 | 200                            | 55.29 ± 6.36**** (6) | 90.40 ± 7.35NS (6) |
|                                 | 500                            | 29.55 ± 8.84**** (3) | 74.29 ± 7.38NS (6) |
|                                 | 1000                           | 100% Mortality     | 76.41 ± 8.18 NS (6) |

P value: ***P<0.001, **P<0.01, NS = Not significant in relation to respective control (‘t’ test)  
Number in parentheses indicate number of animals.
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