

**\_'PHYTOCHEMICAL AND PHARMACOLOGICAL INVESTIGATION  
OF HERBAL ANTI ARTHRITIC DRUGS FOR EXTERNAL USE**

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## **ABSTRACT FOR ORAL PRESENTATION**

**TITLE: “PHYTOCHEMICAL & PHARMACOLOGICAL INVESTIGATION OF ANTI – ARTHRITIC HERBAL DRUGS FOR EXTERNAL USE”**

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**TEXT:** Rheumatoid Arthritis can be compared to ‘AMAVATA’ in Auyurveda, the pathophysiology resulting in the production of ‘Ama’ – the endogenic morbid factors which localizes in the joints, giving rise to its clinical manifestations. Auyurvedic treatment modalities include oral, rectal and local Applications. This paper describes the phytochemical and pharmacological investigations of 3 most frequently used drugs for local applications. i.e. 1) Rasa – Alpinia galanga 2) Kustha – Sassaurea lappa & 3) Devadaru – Cedrus deodar. 3 extracts of each drug was prepared and screened for anti Arthritic activity. In order to identify the active constituents, further analytical studies were carried out. Two component X & Y were isolated and screened for anti inflammatory activity. Component Y which was found to be more active was further subjected to characterization by 1 R Spectra. The achievement of this Research work would be thus that the 3 drugs Rasna, Kushta & Devadaru were scientifically tested for anti arthritic activity, its active constituents isolated and confirmed to possess anti inflammatory activity.

## **TEXT:**

**TITLE:** “ PHYTOCHEMICAL & PHARMACOLOGICAL INVESTIGATION OF ANTI ARTHRITIC HERBAL DRUGS FOR EXTERNAL USE”.

**INTRODUCTION:** ‘AMAVATA’ in Ayurveda is comparable to Rheumatoid Arthritis of the allopathic system of Medicine. Amavata is due to the production of Ama- the endogenic morbid factors produced by a deficient interaction of Agni, leading to its localization in the joints, giving rise to its clinical manifestations Ayurvedic treatment modalities include oral, rectal and local applications. Local or external application of medicated formulations thus form an important part of treatment.

**OBJECTIVE:** External applications in the form of Tailas, lepas etc are widely used in the day to day practice in the treatment of Arthritis in Ayurveda. Hence the objective of this paper is to find the most commonly used drugs in these formulations, to scientifically establish their anti arthritic activity, carry out a phytochemical investigation of the drug exhibiting the best activity, isolate a component / components responsible for its activity and further confirm its identity and anti inflammatory activity.

### **EXPERIMENTAL WORK DONE:**

A survey of the classic and Patent & Proprietary formulations in Auyurveda used externally was conducted and the most commonly used drugs –

- 1) Rasna – Alpinia galanga
- 2) Kustha – Salsurea lappa
- 3) Devadaru – Cedrus Deodar

Were selected for scientific investigation. These drugs were extracted with 3 solvents Petroleum ether, chloroform & Alcohol and screened for anti arthritic activity using the Freund's adjuvant model, the results of which are discussed below. In order to identify the active constituent, the petroleum ether extract of Salsurea lappa, which exhibited the best activity was further subjected to phytochemical studies. 2 compounds X & Y were isolated from the same and its anti inflammatory activity was confirmed. Compound Y exhibiting better activity was identified and characterized by IR Spectra.

### **RESULTS & CONCLUSIONS:**

- All 3 extracts of Salsurea exhibited good activity.
- Only alcohol & Petroleum ether extracts of devadaru showed encouraging results.
- All extracts of Rasna showed poor results
- The Petroleum ether extract of Salsurea lappa exhibited the best activity.
- 2 compounds 1) Component X &  
2) Component Y were isolated from the above extract.
- Both components exhibited good anti inflammatory activity.
- Component Y exhibited better anti inflammatory activity

- Characterization of component is by IR spectra exhibited peaks in agreement with that of the Arthritic sample of costunolide.

ACHIEVEMENTS: The achievement of this research work was to scientifically evaluate the 3 drugs for anti arthritic activity, to isolate & characterize its active component & to further confirm its anti inflammatory activity.

These type of studies contribute for a better understanding & evaluation of drug activity thro' the scientific methods of comparison, Identification and characterization of the active constituents.

FUTURE PLAN OF ACTION:

Since in Auyurvedic formulations, the processing ' Kalpana' of the drug is given utmost importance, an effort should be made to correlate this with the results of the above Research work. Also the classically prepared formulations should be subjected to a similar line of study. This would help in isolating, identifying, characterizing and quantifying the active phytoconstituent and also further contribute to the standardization of the formulations.

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