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THE STUDY OF ANTI-PYRETIC ACTIVITY OF TRIDAX PROCUMBENS IN EXPERIMENTAL RATS

Pharmaceutical Science

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ABSTRACT

Background: Fever, often recognized as pyrexia, is characterized by temperatures more than 38.3°C (100.9°F) which persists for further 3 weeks despite adequate examination. Herbs make up a large portion of the most important forms of medicine.*Tridax procumbens* is also used as treatment for boils, blisters, and cuts by local healers in parts of India[4].As there are no experimental reports on antipyretic activity on *Tridax Procumbens*, present study attempts to evaluate its antipyretic effect in rats. **Material And Methods:** The alcoholic extract was prepared by using Soxlet apparatus. 4 groups of Rats were divided as Normal group, Control and Test 1 and Test 2 group and various concentration of test drug was tested on Brewer's Yeast Induced Pyrexia in Rats. **Results:** At concentrations of 200 and 400 mg/kg, the ethanolic leaf extract of *Tridax procumbens.* demonstrated a substantial impact towards the Brewer's yeast generated pyrexia technique. The temp of rats treated with the extracts was reduced in a daily dosage manner. **Conclusion:** *Tridax procumbens* leaf extract has antipyretic effect in Rat.

KEYWORDS

Rats, Tridax procumbens, Extracts

INTRODUCTION

Fever, often recognized as pyrexia, is characterized by temperatures more than 38.3°C (100.9°F) which persists for further 3 weeks despite adequate examination. It is a pathologic increase in natural body temp; it is an effective phenomenon that is resistant to external influences. Fever is not a disease, but rather a symptom of a variety of illnesses. Excessive heat exposure can cause hyoerthermia, which allows the temperature to increase without any pathological causes. Fever is a symptom of an illness in body. Infections like colds and flu are extremely common, particularly among preschoolers[1].

Herbs make up a large portion of the most important forms of medicine. Herbs have been utilized for medicinal purposes since the dawn of mankind. In historical documents such as the Rigveda, the Bible, and the Quran, a few native drugs utilized in medical technology have been recorded. Over 6,000 years ago, the Chinese used flora and wildlife as medicine. Herbal medicine has been used in India for over a thousand years[2,3].Traditionally, *Tridax procumbens* has been in use in India for wound healing and as an anticoagulant, antifungal, and insect repellent.*Tridax procumbens* is also used as treatment for boils, blisters, and cuts by local healers in parts of India[4].As there are no experimental reports on antipyretic activity on *Tridax Procumbens*, present study attempts to evaluate its antipyretic effect in rats.

MATERIAL AND METHODS

- This is experimental study conducted in Goel Institute of Pharmacy, Lucknow.
- The brewer's yeast provoked pyrexia technique was in use to determine the anti-pyretic activity of ethanolic extract. Fever was generated by administering 10.0 $ml.kg^{-1}$ of a 20.00 percent w/v solution of brewer's yeast in NaCl solution under the skin. Only animals had a rectal temperature increase of approximately 1.0°C after getting a subcutaneous vaccination of 10.0 $ml.kg^{-1}$ of a 20.00 percent w/v brewer's yeast solution in NaCl solution.The research only involved rats with rectal temp raised by minimum 1°C after 18 hours of yeast vaccination. A flexible tail thermometer probe covered with lubricants were used to detect the usual rectal temp of each animal, and the temp was documented utilizing an electronic telethermometer. The experimental group were separated into four subgroups, each of which had six animals. The control group (I) received 0.5 mL saline, the conrol group (II) received 150 $mg.kg^{-1}$paracetamol, and group III &IV received doses I & II of ethanolic extracts of test medicines, accordingly.

Group I :casual Control (CMC)
Group II :Paracetamol(150mg/kg)
Group III : Test Drug I (Ethanol leaves extracts *Tridax procumbens*)
Group IV : Test DrugII (Ethanol leavesextracts *Tridax procumbens*)

The temp of the rectal cavity was measured at 2, 4, 6, and 8 hours after the medication was administered. Anti-pyretic medications are used to rehabilitate the animals.

RESULTS

Anti-pyreticactivity

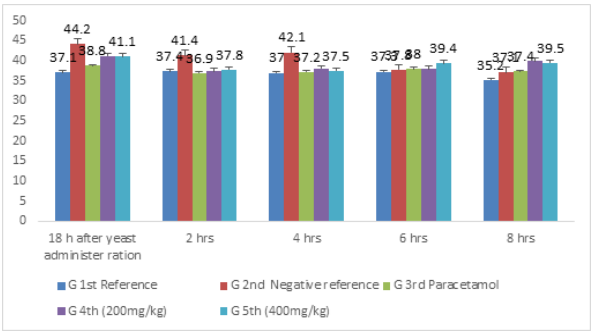
Brewer'sYeastInducedPyrexiainRats

Table 1 shows the anti-pyretic effectiveness of ethanol leaf extract of *Tridax procumbens towards* yeast-induced pyrexia. At concentrations of 200 and 400 mg/kg, the ethanolic leaf extract of *Tridax procumbens.* demonstrated a substantial impact towards the Brewer's yeast generated pyrexia technique. The temp of rats treated with the extracts was reduced in a daily dosage manner. When compare to control, the extract generated a considerable reduction.

Table 1: Ethanolic Extract Of *Tridax Procumbens Has* Anti-pyretic Action On Brewer's Yeast Generated Pyrexia In Rats

Treatment	Rectaltemperature(°C)				
	18 h after yeast administer ration	Temperatureaftertreatment			
		2hrs	4hrs	6hrs	8hrs
G. I Reference	37.1±0.1	37.4±0.2	37.0±0.1	37.3±0.2	35.2±0.1
G.IINegative Refrences	44.2±0.1	41.4±0.3**	42.1±0.2	37.8±0.1	37.1±0.3
G.-III paracetamol	38.8±0.2	36.9±0.2	37.2±0.2	38.0±0.1	37.4±0.2
G. IV (200$mgkg^{-1}$)	41.2±0.1	37.4±0.3	38.1±0.1	38.0±0.2	39.9±0.3
G. V (400$mgkg^{-1}$)	41.1±0.1	37.8±0.1	37.5±0.2	39.4±0.1	39.5±0.2

**P less than 0.01 vs control, values were mean SEM, (n=6). One-way ANOVA was used to evaluate the data, accompanied by Dennett's test.



Graph1: On Brewer's Yeast Generated Pyrexia in Rats, Ethanolic Leaf Extraction of *Tridax procumbens has* Anti-Pyretic Action.

DISCUSSION

Rats were given brewer's yeast to provoke fever. Fever was observed 18 hours after yeast insertion since it takes yeast roughly 18 hours to raise body temperature. Pyrexia is induced by injecting Brewer's yeast under the skin, which increases synthesis of prostaglandins. It is thought to be a valuable test for determining the antipyretic activity of organic materials as well as manufactured medications. Bacterial fever is a yeast-triggered pyrexia whose aetiology could be the synthesis of prostaglandins. Reduction of prostaglandin production similar to acetaminophen, could be a method of antipyretic efficacy, and prostaglandin reduction can be accomplished by inhibiting the cyclo-oxygenase enzymatic activity. There are various mediators for pyrexia and of such mediator are accountable for the antipyretic action.

The rectal temp of yeast-triggered albino rats was dramatically reduced after oral treatment of *Tridax procumbens.* As a result, it's possible that *Tridax procumbens* included pharmacologically active components that inhibited prostaglandin release. The ethanol extract of leaves of *Tridax procumbens* demonstrated significant antipyretic action towards brewer's yeast generated pyrexia in albino rats after 3 hours of testing. Similar study carried out by N. singh et al which found Tridax procumbens has antipyretics effect which is similar finin as present study[5]. Tridax procumbens were evaluated for antipyretic activity using hyperpyrexia induced in rabbits by Typhoid-Paratyphoid A, B vaccine. Like Paracetamol 100 mg/kg (I.V.) Tridax procumbens showed significant reduction in elevated body temperature at 300 mg/kg (P.O.) .The extract was found to have antipyretic effect that was dose dependant.

CONCLUSION:

Tridax procumbens leaf extract has antipyretic effect in Rat,

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