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Evaluation of Analgesic & AntiInflammatory Activity Using Ethanolic Leaf Extract of *Yucca aloefolia* & *Drosera peltata* on Experimental Animals

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ABSTRACT:
Ethanolic extracts of Yucca aloifolia and Drosera peltata can be used as effective analgesic and anti-inflammatory medications since they have considerable effects on pain and inflammation. The extraction procedure of extricates was acquired using maceration process, resulting in ethanolic extracts of plants in a brief span, revealing the phytochemical elements like alkaloids, carbohydrates, flavonoids, saponins, sterols. Aspirin was used as a conventional treatment for pain and inflammation. Both DPEE and YAEE were used at 200 mg/kg separately, but their combined use—that is, YAEE DPEE at 200 mg/kg—showed more significance. Three analgesic models, including the Eddy's Hot Plate Test, were used during the investigations. Tests for radiant heat and writing were conducted, and two models—the Oxazolone Induced Ear Edema Model and the Carrageenan Induced Paw Edema Model—were used to test for anti-inflammatory effects. The findings of GCMS analysis revealed the existence of a small number of compounds that have anti-inflammatory and analgesic properties. Additionally, brain histopathology is performed to demonstrate how herbal extracts affect brain disorders.Thus, the current study demonstrates that the ethanolic extract of Drosera peltata and Yucca aloifola leaves has strong anti-inflammatory and analgesic properties.
KEYWORDS: Analgesic Activity, Anti-Inflammatory Activity, Drosera peltata, Yucca aloifolia

I. INTRODUCTION

The use of plants or plant extracts for therapeutic purposes is known as herbal medicine. It has been used for millennia in a number of cultures and continues to be widely utilized today to treat a variety of medical issues. Use herbal remedies with caution and seek professional healthcare since they may have unfavorable side effects or interact adversely with prescription drugs.
Of course! The use of plants and their extracts to treat ailment and boost health is known as herbal medicine, botanical medicine, or phytotherapy treatments.

The medication's analgesic and anti-inflammatory effects can be observed through the CNS and PNS. The spinal cord and brain make up the central nervous system (CNS).The brain serves as the command center, processing information, making decisions, and coordinating body functions. The spinal cord, which extends from the brainstem to the lower back, is a long, thin bundle of nerve tissue. It improves the flow of signals from the brain to the body's other organs.

The PNS (peripheral nervous system) is a network of nerves that are not part of the central nervous system (CNS).It has two further divisions: the somatic nervous system and the autonomic nervous system. The **Autonomic Nervous System (ANS)** controls involuntarybody processes like breathing, digestion, and heart rate. To maintain homeostasis, the sympathetic and parasympathetic neural systems—which make up the ANS itself—often act in opposition to one another

INFLAMMATION
INFLAMMATION
DEFINATION The immune system react to unfavorablestimuli, such as transmission, damaged cells, dangeroussubstances, orradiation, through causing inflammatory disorders, thataids the organism get rid ofthe harmful stimuli and commences thehealing process.

ALGESIA/PAIN
Pain is an unpleasant sensory and emotional experienceassociated with actual and potential tissue damage

INFORMATION ON PLANTS
The research of this activity is done by usingtwo herbalplants thatmare Yucca aloefolia and Drosera peltata. The plant yucca aloefolia belongs to family Asparagaceae and the plant drosera peltata belogs to family Droseraceae.These two plants are used either individual orin combination to treatvarious diseases like analgesia and inflammationand further phytochmeical evaluation and GCMS analysis are done through whichanimal studies are beeen performed.

II. MATERIAL AND METHODS

Collection of plants:
Collection and Authentication of the Plants:
Dried roots of Drosera peltata and dried leavesof Yucca aloifolia will be obtained and authenticated from botanist; Dr. K Madhava Chetty,Assistant- professor and headof Department of Botany, Osmania University,Hyd, india.

Materials Required:
Apparatus: Porcelain jars, Beaker, Glass dishes, Foilwrap and Muslin cloth
Plants: Drosera peltata and Yucca aloifolia plant leaves ad rootpowder.
Chemicals:
1. Ethanol(99%v/v) preparations for plantextracts
2. Normal saline(0.9%) -used as solvent todissolve the test and standard drugs
3. Indomethacin(10mg/kg)- used asstandard drugfor inflammation
4. Aspirin(20mg/kg)- used as a stanadard drug for analgesia

All the chemicals and reagents usedfor the study of analyticalgrade
Animals required: Male Albino Wistar rats weighng 150-200 gm

Preparation of Plant Extract:
Theleavess and roots have to be cutinto pieces and dried in the shade. Onn completedrying, the pieeces should bepowdered and put away in imperrmeable holders at room temperatures. The powdered leaves willbe macerated withethanol for aboout seven days and asfter which they will be sepparated. The filtrrate might be degeneerate to colllect dried listen. The extractobtained can be subjeected for invvestigation actions. The plant exttract willbe set up by wayof maceration technique

Maceration:
Maceration is a multi-phase extractiion procedure used for liquid extract. The entire or coarsely ground plant-sedate, incluuding the stem , root , and leaves, is put inside a box, and menstruum is poured on top until the drug cloth is fully coveered. The mixture kept in contact with the dissolvabled in a compartment that is sealed for a predetermihned time, or until the solvent issue is fixed. This method workswell and is suitable for plant materials that are thermolabile. Using this process, 500g/kg powder will be incorporated, with ethanolin a 1:2 ratio. It was repeatedly agitated for about 7 days and maintained. This method yields the filtrate, The filtratte will be mixed with regular saline of 0.9% and useda vehicle for further experiments.

EXPERIMENTAL ANIMALS
Male albino wistar rats weighing 150-200 gm will be used. The exp animals shouldbe maintained under std laboratory conditions(22-28^{0}C, 12-h light/dark cycle undercontrolled temperature). All animalsshould be acclimatized to th laboratory environment for not less than one week beforecommencement of expirement.

EXPERIMENTAL DESIGN

S.NO	GROUPS	TREATMENTS	DOSE AND ROUTE
1	GROUP-1	Normal control	1ml- i.p
2	GROUP-2	Toxic control	10 ml/kg-i.p
3	GROUP-3	Standard control	10 ml/kg-i.p
4	GROUP-4	DP extract d1	200 mg/kg-po
5	GROUP-5	DP extract d2	400 mg/kg-po
6	GROUP-6	YA leaf extract d1	200 mg/kg-po
7	GROUP-7	YA leaf extract d2	400 mg/kg-po
8	GROUP-8	DP+YA leaf extract d1	200 mg/kg-po
9	GROUP-9	DP+YA leaf extract d2	400 mg/kg-po

ACUTE TOXICITY STUDIES

Acute toxic classicapproach developed by Litchfield and Wilcoxon (1949), Acate Toxicity Studies are conducted for the extractusing the intense damaging cumplary strategy. In the future, male albino mice will be usedto conduct extensivepoisoning studies on plant extricates. The mice have to fast for the whole night,and their weights have to be documented rightbefore the experiment begins. The animal divided into five groupsof six animals each, and an oral expanding partof the extract upto 2000 mg/kg b.w. will be administered. Animals will be observed for 72 hours following treatment tocheck for toxicity or death. There shouldn't b any changes to the eyes, skin and hide,autonomic (laughing, lacrimation, feces), orcentral sensory systems (ptosis, lethargy, tremors).

Screening for phytochemicals

The first phytochemical screening willbe undertaken according to established procedures. In the ethanolic leafextracts of C. fragrans (C.F.) and C. ramiflora (C.R.), a number of phytochemicals, including alkaloids, flavonoids, glycosides, seroids, terpenoids, anthraquinones, proteins, phenols, and anthocyanins, will b screened for using well-established, standard methods.

1. FLAVONOID TEST

Add one milliliter of the 10% Pbacetic acid derivation solution to ne milliliter of extract. The arrangement of yellow dots is thought to be a good sign if flavonoids are present.
a) Alkaline Reagent Test: Two milliliters of a 2% NaOH solution were combined with crude concentrate. The presenceof flavonoids was indicated by a bright yellow tone that changed colorless after a few drops of mild corrosive expanded.

2. ALKALOID TESTING

Two milliliters of 1% Hel were added to the crude extract, and it was then slowly heated.The mixture wasthen supplemented with Mayer's and Wagner's reagents. Alkaloids are detected by measuringthe turbidity of the resulting precipitate.

3. A TANNINS TEST

(a) Two milliliters of a 2% FeCl3 solution are combined with the crude remove. Tannins appear as a black or blue-green hue.
(b) Two milliliters of 1% HCI are mixed with two millilitersof fluid exticate, and the mixture is heated. The presence of tannins was thought tobe demonstrated by the emergence of ared ppt.
A few drops of FeCl3 sol were addedto around 2 milliliters of concentrate and 2 milliliters of filtered H2O. The formationof green ppt indicates the grade of tannins.

4. CARBOHYDRATE TEST
(a) Fehling's Test: 2 milliliters of the unrefined remove that hasbeen thoroughly heated is introduced to he same volume of Fehling a and Fehling breagents, which are broken down together. When reducing sugars were present, a brick-red tint formed in the test tube's lowest section.
(b) Iodine Test: Two milliliters of iodine solution are combined with the crude concentrate. A faint blue/purple tint indicated the presence of sugar.

5. PHYTOSTEROL TEST
An alkaline KOH solution is used to reflux the remove until full saponification has place. Ether ws used to restore the attenuated combination. After removing the ether layer, the accumulation was examined for phytosterol. After adding 3 mL of acidic anhydride and a few drops f pure H2SO4, the accuulation was broken up with a few drops of diluted acidic corrosive. The presence of phytosterol is indicated by the emergence ofa faint blue-green tint.

6. SAPONINS TEST: When crude is combined with five milliliters ofrefined water in atest container and agitated violently, it extracts.It is believed that the presence of saponins is indicated bythe formation of stable foam.

7. GLYCOSIDE TESTING
a) The Libermans Test Two milliliters of chloroform and two milliliters of CH3COOH were mixedwith crude extracts. Ice is used to chill the mixture. Prior tits introduction, H2SO4 was meticulously condensed. A steroidal nucleus, or the glycone portion of a glycoside, is present when the hue changes from violet to blue to green.
(b)KELLER-KILANI TEST When dissolved in two milliliters of glacial CH3COOH with one o two drops of 2% FeC13 solution,crude extracts. Two milliliters of concentrated H2SO4 are added to another test tube withthe mixture. Cardiac glycosides are seen asa brown ring surrounding the interphase.

8. A PROTEIN TEST
Millon's Test: The presence of protein was confirmed when crude extracts were dissolved in 2 milliliters of Millon's reagent, forming a white precipitate tha turned red when heated gradually.

9. PHENOL TEST
2 milliliters of a 2% FeCl3 solution were used to dissolve the crude extracts. Phenols are indicated b a dark, blue-green color.
When slowlyheated, aprecipitate formed that turned crimson, indicating the presence of protein.

10. TRITERPENOID TEST
Ten milligrams of the extract are mixed with one milliliter of chloroform, onemilliliter of acetic anhydride, and two milliliters of saturated H2SO4. The presenc of triterpenoids is indicated bythe production of a reddish violet tint.

STATISTICAL ANALYSIS: MEAN + SEM (standard error of mean) will be used to denote all conclusions.

HISTOPATHOLOGICAL EVALUATION Under anesthesia, the animals will be deprived for thewhole night before being sacrificed for histopathological evaluation. Brain tissue samples will be stored in a 10% formaldehyde solution, and laboratory parameters will be assessed.

PHYTOCHEMICAL EVALUATION
Following the effective maceration of ethanolic leaf extractof yucca aloefolia and drosera peltata, the following phytochemical analysis was performed and are summarized inthe accompanying Tables 1 and 2.

TABLE 1 PHYTOCHEMICAL ANALYSIS OF YUCCA ALOEFOLIA

TYPE OF CONSTITUENTS	Y.ALOIFOLIA EXTRACT
Alkaloids	+
Glycocides	+
Carbohydrates	+
Flavonoids	+
Tannins	-
Saponins	+

+

Sterols	+
Phenols	-
Proteins	+
Triterpenoids	-

indicates presence and – indicatesabsence

Table 2 – phytochemical analysis of D.peltata

TYPE OF CONSTITUENTS	D.PELTATA EXTRACT
Alkaloids	+
Glycocides	-
Flavonoids	+
Tannins	+
Saponins	+
Sterols	+
Phenols	+
Triterpenoids	-

SCREENING METHODS FOR ANTI INFLAMMTORY INVIVO

CARRAGENAN INDUCED PAW OEDEMA

Procedure

The most widely used assessment techniquedepends on the ability of these experts to manage the edema thatdevelops inthe rat's hind paw following the inj of a phlogistic specialist. Many phlogistic experts(aggravations) have made useof. There are a few different approaches to estimate the impact. At he talocrural junction,the hind appendage may be dissected and the weighing process iscomplete. Typically, the injected paw's volume is measured beforehand, then the paw vol of the healed anima is deviated from the controls after the fact. There are several methods that have beendescribed for measuringpaw volume,including simpler, lesscurate methods more advanced electonically manufactured devices the evaluation'srating is mostly basd on the selectedaggravations and less on the device. A few irritations cause just abrief, transient disruption, whereasother irritations causepaw edema to last for morethan 24 hours

Oxazolone-induced ear edema in mice

Mice that weigh 25g are used. Before each usage, afresh 2% solution of oxazolone (4-ethoxymethylene-2-phenyl-2-oxazolin-5-one) in acetone is prepared. Under halothane anesthesia, the mice are sensitized by applying 0.1 ml to the shaved abdomen region or 0.01 ml to each oftheir two ears. Eight days later, the mice are studied another time while drowsy with 0.01 ml of 2% oxazolone solution or 0.01 ml of oxazolone solution being administered to the right ear (control)., depending on whether the test compd or std is comprehended. Pipettes of 0.1 mL/0.01 mL are used. Groups of 10-15 animals are treated with the irritant alone or with a combination of the test compounds. Left ear remains untreated. The extreme of inflammation occurs 24 hours later.Animals are now sacrificed by administering anesthesia and punching a disk measuring 8mm from each side. Discs are instantly weighedfor balance.

INVITRO METHOD FOR ANTI-INFLAMMATION ACTIVITY:

(a) COX- ASSAY:

COX-1 Assay: : To determine the assay, 10 ml of sample solution was mixture with 0.1 ML of adrenaline dihydrogen titrate and 10 mM of hematin. A few units of cox-I were alsoadded at same time. The sample solution was then pre-incubated for 5 to 10 minutes, during which time 10% formic acid was added upto 10 ml, PGE-2 concentration was quantified, and results assessed were compared between the standard and test groups

COX-2 assay: The mixture that will be testedincludes Imm of hematin, Img/ml gelatin, 100 mM sodium phosphate, and 2..5 ml of composite in DMSO. It will first be pre-incubated for 10 minutes at 20 °C before beginning, after which20 ml of IMm TPMD solution is added. After comparing the standard antest drugs, the presence and lack of cox-2 on TPMD inhibition will be observed, and the absence will be deducted from the presence.

SCREENING METHODS FOR ANALGESIC

INVIVO

HOT PLATE METHOD

PROCEDURE

Many scientists have adapted theapproach first described by Wolfe and Mac Donald (1944). The accompanying changes be sensible.Each puston is made up of ten mice with an underlying burden ranging from 8 to22 grams. The hotplate, which is commercially available,consists of an electrically heated fice. The temperature isset at 55° to 56 °C. This might b a copper plate or a heated glass surface. Animals are placed on ahot plate, and the time untillicking o leaping occurs is recorded using stopwatch. Dormancy isdocumented at 20, 60, and 90 minutes after oral or subcutaneous injection of the reference or test substance.

RADIANT HEAT METHOD

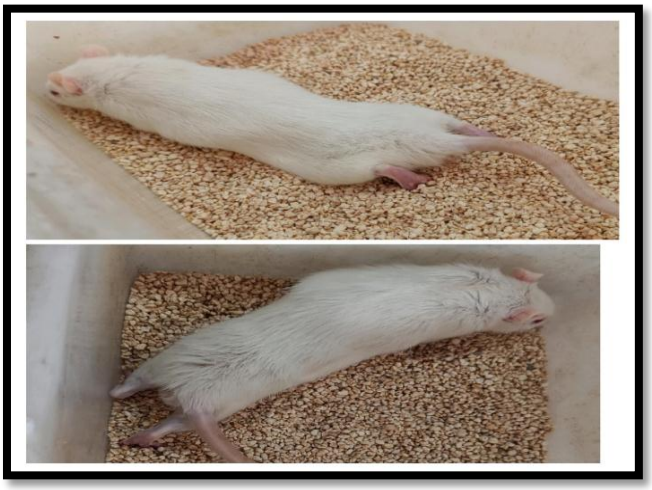
Schumacher et al. (1940) and Wolff et al. (1940) devised amethod for evaluating the analgesic impact of opiates and quantitativelymeasuring theanalgesic threshold in humans against heat radiation, which was later used by numerous authors toexamine analgesic qualities in animals.

It is accomplished by assessing th effects of medicationtaken on the susceptibility ofmice/rats to heat stress delivered to theirtails. This test is highlyuseful to identify non-opiate analgesics from centrally acting morphine-like analgesics.

Mice are imprisonedwith their tails exposed toalaser beam focused on he proximalthird ofthe tail. The mice's reaction time is assessed

WRITHING TEST
PROCEDURE
Both male and female mice, measuring 20 to 25 grams, are used. A 0.02% concentration of phenylquinone is suspended in 1% carboxymethcellulose. This suspension is given intraperitoneally in a 0.25 mL dosage. Two groups of six animals—controls and treat mice—were created. Two control groups of six mice were selected. Test animals were subjected to a range of medications prior to being given phenylquinone. Mice were submerged in glass beers for the next five minutes, and after ten minutes, they were inspected. The amount of writhes that each mouse made was noted separately. The act of stretching the abdomen and the atent on the back leg at the same time is called a writhing. This is done in order to score.

The formula for inhibition is as follows: Average control group writhing - drug group writhes/control group writhes multiplied by 100% The maximum percentage of inhibition is used to compute the peak time. Substances that elicit more than 70% writhing are assigned a dose range. Less than 70% inhibition was demonstrated by one drug, suggesting minimal activity.

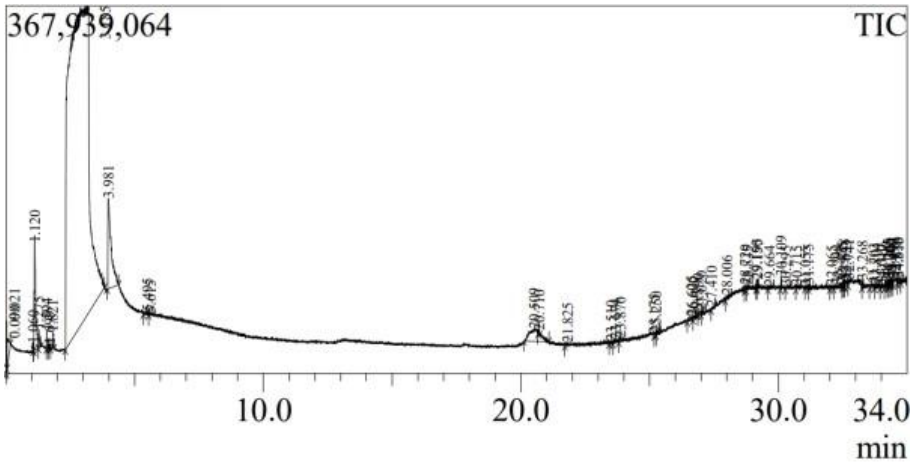


CALCULATIONS
Calculation of percentage yeild of Yucca Aloifolia
Weight of sample: 150 grams
Weight o the crudeextract: 500 grams
formula of % yeild: weight of sample/ weight ofthe crude extract x 100
%yeild: 150/500 x 100-30%
Percentage yeild of Yucca Aloifolia 30%

Calculation of percentage yeild of Drosera peltata
Weight ofsample: 134 grams
Weight of the cru extract: 500 grams
Formula of % yeild: weight o sample/weight of the crude extract x 100
% yeild: 134/500 x 100-26.8%
Percentage yeildof Drosera peltata 26.8%

III. RESULTS

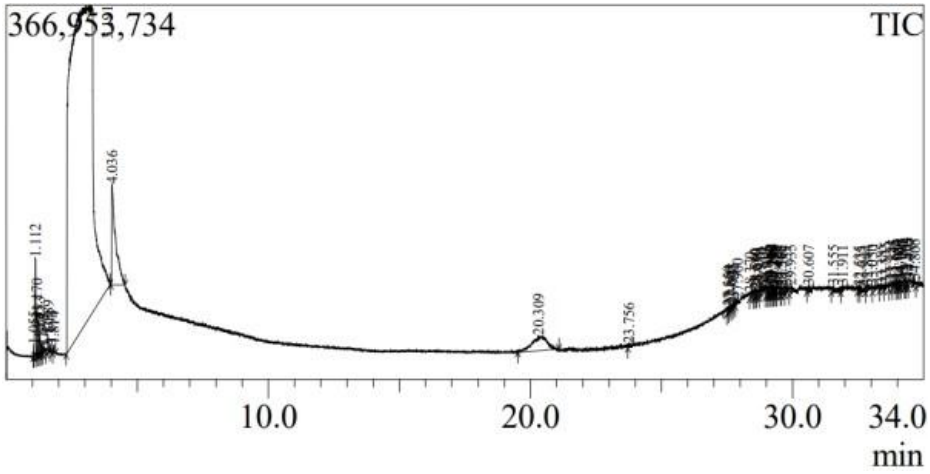
GCMS ANALYSIS:
GCMS of Ethanolic Extract of yucca aloifolia:



Peak Report:

S.no	Retention time	Chemical constituents	Area %	Uses
1	20.509	Dimethyl Sulfoxide	1.75	Decreases painand inflammation.
2	22.450	Sulfamide	1.02	Anti-inflammatory, Treats bronchitis, bacerial menengitis, earand eye infections, UTI Infections, sever burns.
3	26.890	Benzoic acid	0.08	Treat skin irritation and inflammation causedby burns
4	29.150	Phenol	0.05	**U**sed asan oralanalgesic, **relieve itching, t**reats pharyngitis.
5	24.063	Methyl ester	1.20	Anti-inflammatory
6	33.703	Pentasiloxane	0.17	Anti inflammatory, removes wrinkles andkinblemishes and irritation, prevents scaling
7	32.760	Butyric acid	0.20	Treats inflammatory conditions (non-specific bowel nflammation, diverticulitis, diversion colitis)
8	23.870	2-Propanol	1.34	Used to preventmigraine headaches andchest pain (angina)
9	25.175	Propanoic acid	1.02	**Treatment of inflammation associatedwithtissue injury**.
10	25.250	Coumarin-6-ol	1.07	Anti-inflammatory and anti pyretic

GCMS of Ethanolic Extract of droserapeltata:



Peak Report:

S.no	Retention time	Chemical constituents	Area %	Uses
1	34.039	Benzoic acid	0.09	Treat skinirritation and inflammation causeby burns
2	1.055	1,1-Cyclopropanedicarbonitrile	0.07	Decreasespain
3	20.309	Dimethyl Sulfoxide	2.40	Treats painfulbladder syndrome, decreasestopical pain.Treats inflammation, headache,osteoarthritis, rheumatoid
				arthritis, severe facial pain.
4	34.304	Pentasiloxane	0.10	Anti inflammatory, removes wrinkles and skinblemishes and irritation, preventsscaling
5	34.405	Hexadecanoic acid	0.13	Antiinflammatory
6	32.625	Hydroxybutyric acid	0.07	Analgesiic
7	29.365	phenothiazone 32	0.09	Treats moderate tosevere pain.
8	33.535	Thiatriazole	0.07	Anti inflammatory
9	31.055	Pyridine-2	1.02	Relieve symptoms caused by irritation of he urinary tract such as pain, burning, and the feeling of needing o urinate urgently orfrequently.
10	34.20	Dimethoxyamine	2.80	Analgesic, Anti inflammatory,

INVITRO RESULTS
COX-2 INHIBITION

Concentration µg/ml	Standard drug (Aspirin)	Plant 1 Dorserapeltata	Plant 2 Yucca aloifolia
100	84.06%	72.3%	75.12%
80	80.04%	60.13%	64.10%
60	68.03%	45.06%	48.06%
40	45.08%	33.05%	37.08%
20	29.06%	19.07%	23.07%

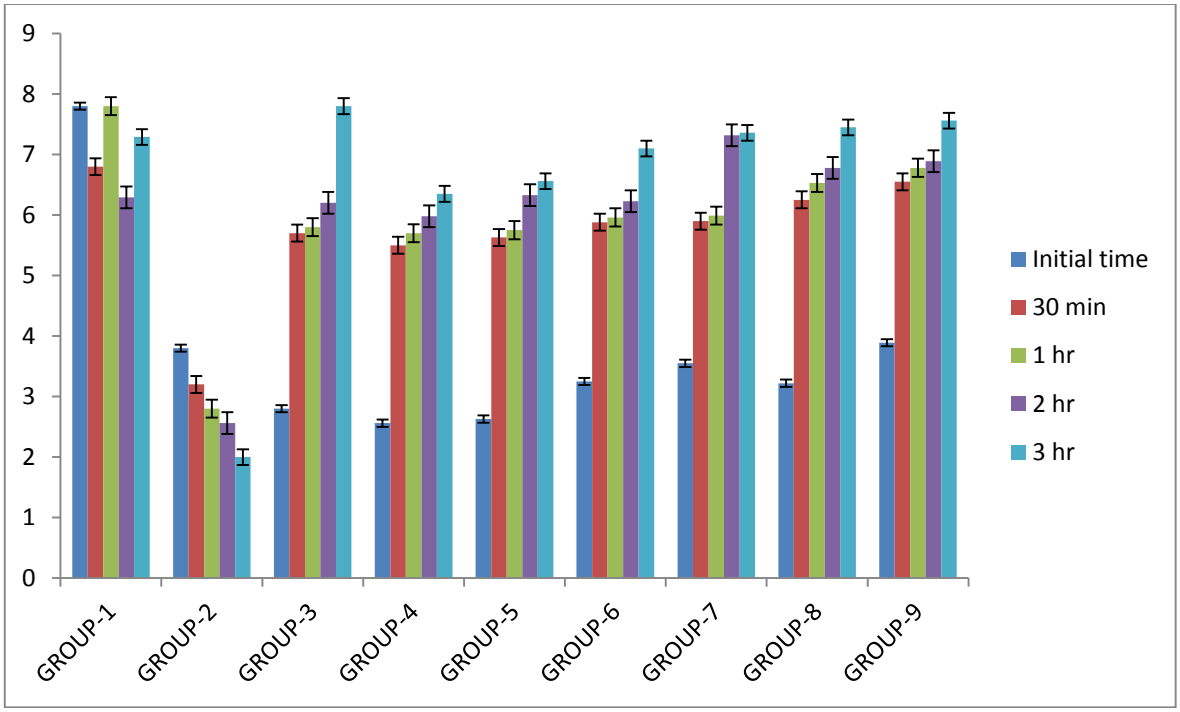
ANIMAL MODELS FOR ANALGESIC

Eddy's Hot Plate Test:

TREATMENT	REACTION Initial Time	TIME		
		15 minutes	30 minutes	60 minutes
Normal Control	7.16 ± 0.20	7.20 ± 0.28	6.55 ± 0.30	6.45 ± 0.29
Toxic Control	6.06 ± 0.378	5.24 ±0.420	4.14 ± 0.430	3.50 ± 0.392
Standard	7.56± .253***	11.7 ±0.262***	12.6 ± 0.261***	14.55± .260***
P1(200mg/kg)	6.20 ± 0.460**	10.33 ± 0.372**	11.17 ±0.462**	12.18± 0.459**
P1(400mg/kg)	7.88 ± 0.184*	10.82 ± 0.182*	11.90 ± 0.187*	12.91 ± 0.18*
P2(200mg/kg)	6.98±0.178***	10.98± .241***	11.98± .182***	13.23± .183***
P2 (400mg/kg)	7.66±0.022	9.98± .241***	9.23± .182***	12.26± .183***
P1+P2(200mg/kg)	7.98±0.175***	10.98± .241***	11.98± .182***	13.96±0.185***
P1+P2(400mg/kg)	6.98± .176***	12.98±0.241***	14.98± .182***	14.96±0.188***

Data is indicated by MEAN ± SEM,
*Statistically significant comparing tToxicant group (II) at p<0.05;
**Statistically significant comparing tToxicant group (II) at p<0.01;
***Statistically significant comparing toToxicant group (II) at p<0.001

EDDY'S HOT PLATE TEST

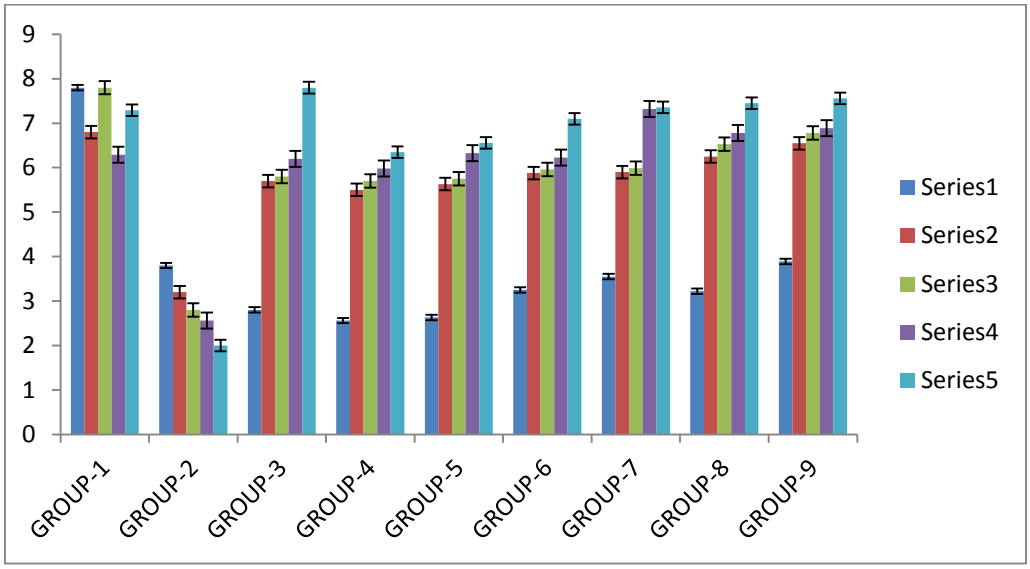


Effect of YAEE and DPEE on rat introduced onhot plate

Radiant Heat Method:

TREATMENT	Time				
	0 min	30 min	1 hr	2 hrs	3 hrs
Normal Control	7.8 ± 0.06	6.8 ± 0.14	7.9 ± 0.15	6.29 ± 0.18	7.29 ± 0.13
Toxic Control	3.8 ± 0.11	3.2 ± 0.10	2.8 ± 0.17	2.56 ± 0.11	2.0 ± 0.12
Standard	2.8 ± 0.12	5.7 ± 0.12	5.8 ± 0.08	6.2 ± 0.08	7.8 ± 0.11

P1(200mg/kg)	2.56 ± 0.11	5.5 ± 0.8	5.7 ± 0.06	5.98 ± 0.16	6.35 ± 0.08
P1(400mg/kg	2.63 ± 0.11	5.63 ± 0.8	5.75 ± 0.06	6.33 ± 0.16	6.56± 0.08
P2(200mg/kg)	3.25 ± 0.16	5.88± 0.17	5.96 ± 0.02	6.23 ± 0.08	7.1 ± 0.05
P2 (400mg/kg)	3.55 ± 0.11	5.90 ± 0.8	5.99 ± 0.06	7.32±0.003	7.36 ± 0.08
P1+P2(200mg/kg)	3.22 ± 0.17	6.25± 0.11	6.53 ± 0.01	6.78 ± 0.01	7.45 ± 0.01
P1+P2(400mg/kg)	3.89 ± 0.11	6.55 ± 0.8	6.78 ± 0.06	6.89 ± 0.16	7.56 ± 0.08

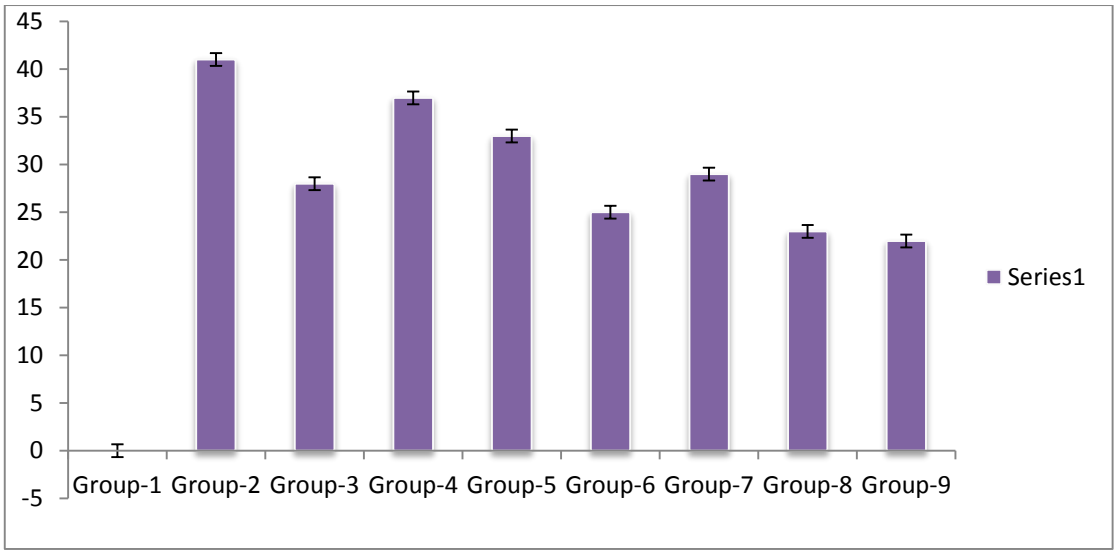


Effect of YAEE and DPEE on application of radiant heat

Writhing Test:

Treatment Groups (n=6)	**No. Of Writhigs (in 10 mins)**
Normal Control	0
Toxic Control	41 ± 0.67
Standard	28 ± 0.78***
P1(200mg/kg)	37 ± 0.48*
P1(400mg/kg	33 ± 0.48*
P2(200mg/kg)	29 ± 0.78**
P2 (400mg/kg)	25 ± 0.48*
P1+P2(200mg/kg)	23 ± 0.75***
P1+P2(400mg/kg)	22 ± 0.48*

Data is indicated by MEAN ± SEM,
*Statistically significant comparing toToxicant group(II) at $p<0.05$;
**Statistically significant comparing tToxicant group(II) at $p<0.01$;
***Statistically significant comparing toToxicant group(II) at $p<0.001$;

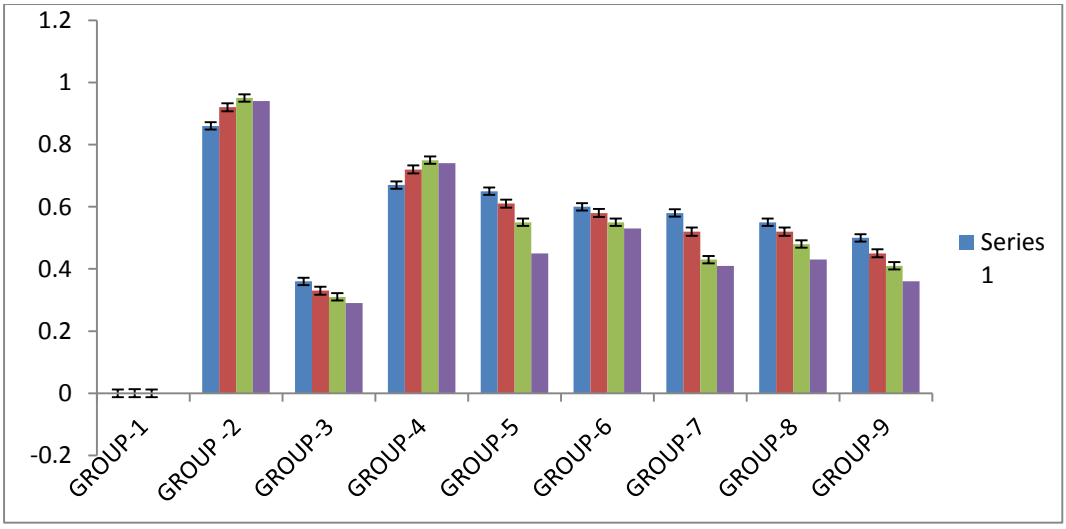


Effect of YAEE and DPEE on abdomen of acetic acidinduced rats

INVIVO Models for Anti-inflammatory Activity:
Carrageenan Test:

Treatment	Percentage inhibition of inflammation			
	30 minutes	1 hour	2 hours	3 hours
Normal	0	0	0	0
Toxic Control	0.86 ± 0.006	0.92 ± 0.005	0.95 ± 0.002	0.94 ± 0.003
Standard	0.36 ± 0.012***	0.33 ± 0.013***	0.31 ± 0.012***	0.29 ± 0.007***
P1(200mg/kg)	0.67 ± 0.005**	0.72 ±0.006**	0.75 ± 0.006**	0.74 ± 0.006**
P1(400mg/kg	0.65 ± 0.005**	0.61 ±0.006**	0.55 ± 0.006**	0.45± 0.006**
P2(200mg/kg)	0.60 ± 0.004*	0.58 ± 0.004*	0.55 ± 0.008*	0.53 ± 0.006*
P2 (400mg/kg)	0.58 ± 0.005**	0.52 ±0.006**	0.43 ± 0.006**	0.41 ± 0.006**
P1+P2(200mg/kg)	0.55 ± 0.010***	0.52 ± 0.009***	0.48 ± 0.007***	0.43 ±0.008***
P1+P2(400mg/kg)	0.50 ± 0.005**	0.45 ±0.006**	0.41 ± 0.006**	0.36 ± 0.006**

Data is indicated by MEAN ± SEM,
*Statistically significant comparing toToxicant group(II) at p<0.05;
**Statistically significant comparing toToxicant group(II) at p<0.01;
***Statistically significant comparing toToxicant group (II) at p<0.001;

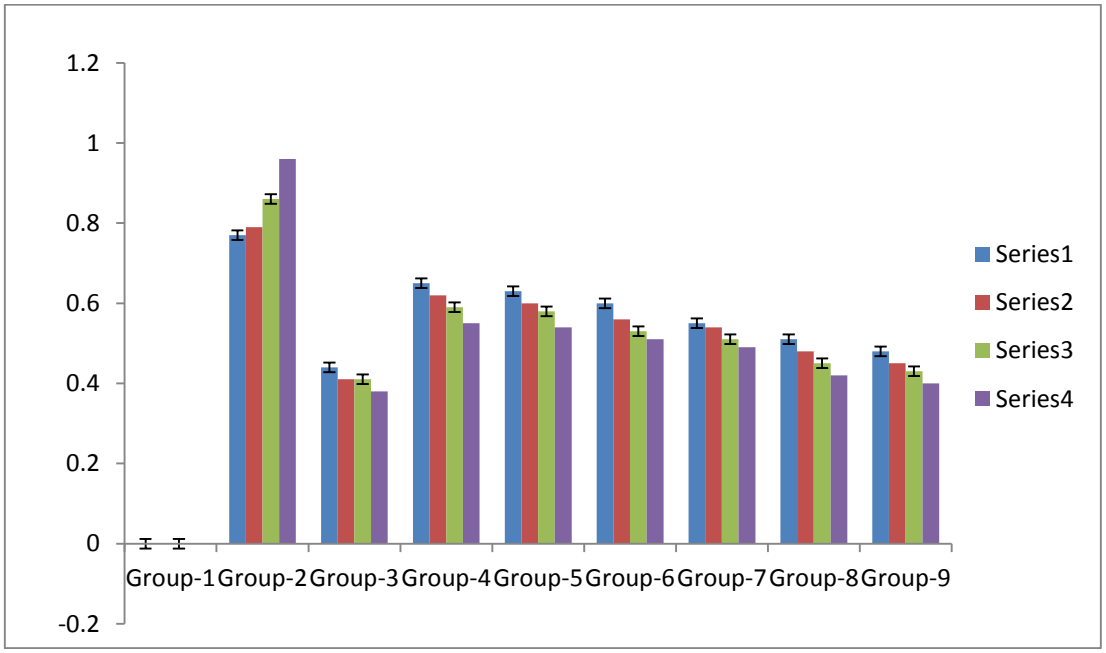


Effect of YAEE and DPEE on paw of carrageenan inducededema inrats

Oxazolone Induced Anti- Inflammatory Test:

Treatment Groups (n=6)	Percentage inhibition of inflammation			
	30 minutes	1 hour	2 hours	3 hours
Normal	0	0	0	0
Toxic Control	0.77 ± 0.004	0.79 ± 0.006	0.86 ± 0.006	0.96 ± 0.006
Standard	0.44± 0.008 ***	0.41 ± 0.007***	0.41 ± 0.012***	0.38 ± 0.008***
P1(200mg/kg)	0.65 ± 0.007**	0.62 ± 0.009**	0.59 ± 0.006**	0.55 ± 0.006**
P1(400mg/kg	0.63 ± 0.007**	0.60 ± 0.009**	0.58 ± 0.006**	0.54 ± 0.006**
P2(200mg/kg)	0.60 ± 0.003*	0.56 ± 0.007*	0.53 ±0.008*	0.51 ± 0.008*
P2 (400mg/kg)	0.55 ± 0.007**	0.54 ± 0.009**	0.51 ± 0.006**	0.49 ± 0.006**
P1+P2(200mg/kg)	0.51 ± 0.012***	0.48 ± 0.009***	0.45± 0.010***	0.42 ± 0.007**
P1+P2(400mg/kg)	0.48 ± 0.007**	0.45 ± 0.009**	0.43 ± 0.006**	0.40 ± 0.006**

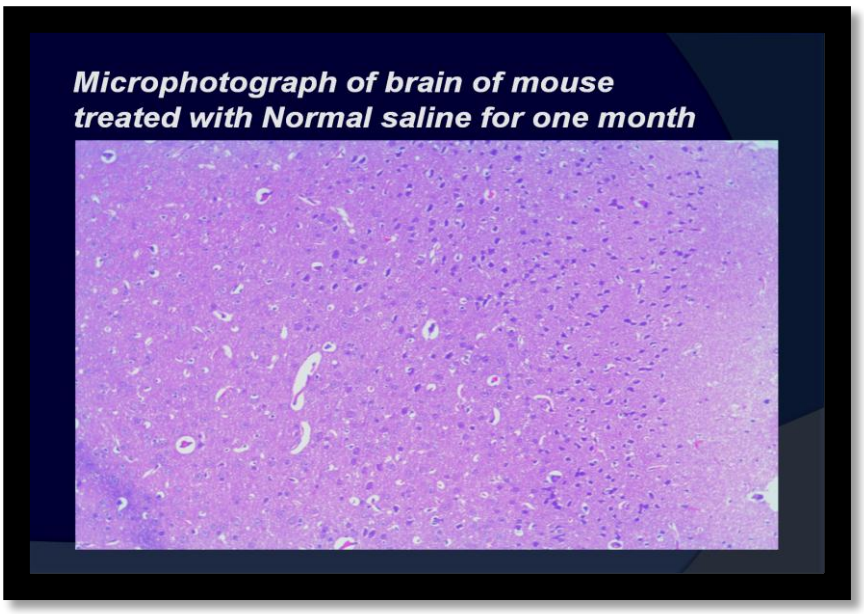
Data is indicatedby MEAN ± SEM,
*Statistically significant comparing to oxicant group(II) at p<0.05;
**Statistically significant comparing toToxican group(II) at p<0.01;
***Statistically significant comparing toToxicant group(II) at p<0.001;



Effect of YAEE and DPEE on earof oxazolone induced edema in rats

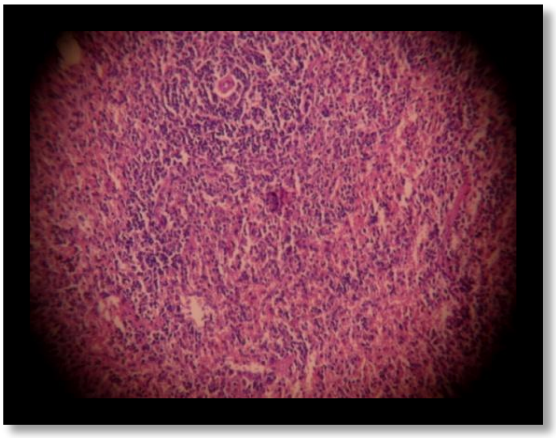
HISTOPATHOLOGY

GROUP I



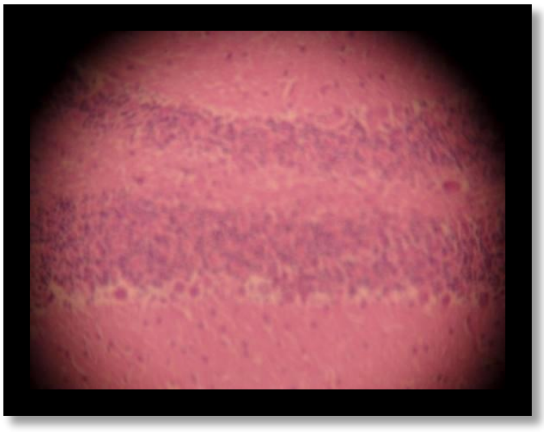
Shows normal brain tissue

GROUP II



Mice from the hazardous group had noxeous irregularly arranged. revealed a hih number of degraded cells, a basophilic appeearance, karyopyyknosis.

Group III



Std drug imipramine (2mg/kg ip) has given to group 3 mice and shows the cells whivh are healthyof hippocampus

Group IV:

This image is showing the parenchyma inlamation andfew neuronalddigeneration.

Group V:

This image is showing the mildedema and neuronal degemration.

Group VI:

Showed mild oedema and neurodegeneration
This image is showing the mild oedema and neuro degenertion

IV. DISCUSSION

My chosen extracts of yucca aloifolia and drosera peltata are efficient both alone and in combination.
The screening methods for analgesic and anti inflammatory acticity have been performed and the effctivenes of extracts has been discussed below .
For anti inflammatory activity the Carrageenan-induced paw edema performed Yucca aloifolia + drosera peltata was effective up to 96%; yucca aloefolia waseffective up to 93%; and drosera peltata was effective up to 75%.
Oxazolone-induced ear oedema was tested, and Yucca aloefolia + drosera was 98% effective, yucca aloefolia was 84% effective, and drosera was 72% effective.
For analgesic activity the Eddy's hot plate method used, and yucca aloefolia drosera peltata was effective up to 96%, whereas yucca aloefolia was 82% effective and Drosera was 87% effective. With thw use of Analgesiometer the Radiant heat method was used, and yucca aloifolia was successful up to 91%, while drosera was up to 83%.Yucca aloefolia + drosera peltata was effective 80%A writiing test was conducted, and yucca aloefolia drosera peltata was effective up to 99%, yucca aloefolia up to 80%, and drosera peltata 84% effective. The methods which isdisccussed above and the effects have been coamparison with the standard ones

V. CONCLUSION

Herbal extracts of Yucca aloifolia and Drosra peltata have been shown tobe very effective drugs to cure pain and swelling, witha strong reaction against painand inflammation. The extraction ofplant proceess is carriedout using the maceration technique, which creates ethannolic extricatesof plants ina short time and contains alkaloids, glycosides, carbohydrates, flavonoids, tannins, saponins, sterols, phenols, proteiins, and triterpenoids.

i is widely belived that employing natural or medicinallplant extracts in combination boosts the effectivenness of movemennt. However, one well-known shows moresignificance while theother shows muchhless, which aids in the potency collectively, which inturn extemporizes thereactions.
Though these naturalplant extractss of yucca aloefolia demonstrate powerful sports, more research can be done to find outremedies for numerous sportsor responnses that are safe, efficacious, and obligate. natural plants are lessexpensive than regular medications, have less side effects, and provide natural treatmentoptions.

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