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Research article

Phytochemical screening of *Calendula officinalis* leaves

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ABSTRACT

Calendula officinalis is a plant which possess many pharmacological actions like Stomach upset, Ulcers, Menstrual Period Problems, Eye Infections, Inflammations, wound Healing, Anti-Septic. most widely it is used as if the leaves of that plant rubes on the affected part where the bleeding is occurred, it relives from pain & it immediately stop bleeding. In all this disease the plant is used as a medicine, but actually the active ingredients present in the leave acts as the reliever, so it is necessary to find out what the molecule is present in that plant. For that the first step is to perform the phytochemical test of that plant. In our present study we perform a phytochemical screeningof*Calendulaofficinalis.*

Keywords: Pharmacological, Phytochemical Screening, Inflammation, Bleeding.

INTRODUCTION

Calendula officinalis is a plant in the genus *Calendula* of the family Asteraceae. It is probably native to southern Europe, though its long history of cultivation makes its precise origin unknown, and it may possibly be of garden origin. It is also widely naturalised further north in Europe (north to southern England) and elsewhere in warm temperate regions of the world. Calendula officianalis is a short-lived aromatic herbaceous perennial, growing to 80 cm (31 in) tall, with sparsely branched lax or erect stems. The leaves are oblong- lanceolate, 5–17 cm (2–7 in) long, hairy on both sides, and with margins entire or occasionally waved or weakly toothed. The inflorescences are yellow, comprising a thick capitulum or flowerhead 4–7 cm diameter surrounded by two rows of hairy bracts; in the wild plant they have a single ring of ray florets surrounding the central disc florets. The disc florets are tubular andhermaphrodite, and generally of a more intense orange-yellow colour than the female, tridentate, peripheral ray florets. The flowers may appear all year long where conditions are suitable. The fruit is a thorny curved achene [1].

MATERIAL AND METHOD

PREPARTION OF THE EXTRACT

Method of Extraction: Decoction procedure with Ethanol & Water in a 1:1 ration.

Istruments Used: Beaker, Water Bath, Glass rod.

Chemicals Used: Ethanol, Chloroform, Butanol, Dist. Water.

Extraction Procedure: The shade dried coarsely powdered laeves of *Calendula officinalis* was first taken into a beaker & add Ethanol & Water in a 1:1 ratio. Then place that beaker in a water bath. Left it for 4 Hrs, after that take it down from the water bath & subjected to filter through filter paper. Take it into a 100ml separating funnel & add 50ml Chloroform & the contents of separating funnel was mixed properly by shaking for around 5 min. & kept aside for half an hour for separataion. Chloroform soluble portion was collected separately. Insoluble portion was retained in the separating funnel & 50 ml Butanol was added, mixed & kept aside for half an hour for separation. Butanol soluble portion was collected separately & insoluble portion was dissolved in 50 ml water [2].

Ferric Chloride Test: The test solution was treated ferric chloride solution, dark color appears which shows the presence of Tannin.

Gelatin Test: The test solution was treated with 1% Gelatin solution containing 10% NaCl, a white ppt forms which shows the presence of Tannin.

Test for Flavonoid

Ferric Chloride Test: Ttreat the test solution with ferric chloride solution, the intence green color will show the presence of Flavonoid.

Shinoda Test: Treat th etest solution with few fragments of Mg ribbon & conc. HCl, Pink Scarlet Crimson color occasionally cream to blue color shows the presence of Flavonoid.

Test for Alkaloid:

Mayers Test: Treat the test solution with Mayers reagent, cream color appers which shows the presence of Alkaloid.

Wagners Test: Treat the test solution some cidic solution & Wagners reagent, brown ppt willshow the presence of Alkaloid [3].

Test for Fat

Solubility Test: Treat the test sample with Pet. Ether. If the sample gets dissolved then it indicates the presence of Fat.

Test for Protein

Xanthoproteic Test: Treat the test solution with Conc. HNO3 on boiling water bath, if a yellow ppt will form the it shows the presence of Protein.

Biuret Test: Treat the test solution with 40% NaOH & then add Dil. CuSO4 solution, Blue color indicates the presence of protein.

Test for Steroid:

Salkuowaski Test: Treat the test solution with few drops of Conc. H2SO4, shake, allowed to stand, lower layer turns Red, indicates the presence the Steroid Statistical evaluation was done by ANOVA test followed by Neuman-Keuls [4].

RESULTS

Effect of Symphytum asperrimum HCE treatment on lethal sepsis induced by CLP. The cecum was perforated 8× with an 18 G needle. The treatment with HCE at the doses of 5 (HCE 5) or 50 mg/Kg (HCE 50) was done 6 hours before the CLP [5].

The mice survival was observed until the 6th day. The results were expressed as mean ± S.E.M of 10 animal/group.

Effect of prophylactic HCE treatment on the cellular influx to peritoneal cavity induced by CLP The cell recruitment to the peritoneal cavity, constituted mainly by neutrophils, was enhanced in the HCE treated mice when compared to the control group. The treatment with HCE also induced an intense infiltration of inflammatory cells to the cecum walls which was more evident than that observed in the control [6].

DISCUSSION

Some in vitro evidences demonstrated that Symphytum asperrimum has a microbicidal activity (2-7). To evaluate the in vivo anti-microbial effect of this species we used the model of CLP which resembles the clinical situation of bowel perforation and mixed bacterial infection of intestinal origin which seems to be the most realistic model of sepsis. The present study demonstrated that the prophylactic treatment with HCE from the leaves of Symphytum asperrimum effectively reduces the mortality of CLP-induced lethal sepsis in mice. [7].

CONCLUSION

After performing the above experiment, the study shows the presence of Tannin, Alkaloid & Steroid in different portion. And further study needed to conclude the future prospects of particular this plant.

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