



Comparative Evaluation of Various Herbal Extracts for Anthelmintic Activity

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Abstract: The aim of present study was to evaluate anthelmintic activity of ethanolic extracts of aerial parts of *Cynas Circinalis* using earthworms. Various concentrations 50 and 100mg/ml of plant extracts were tested in bioassay which involves determination of time of paralysis and time of death worms. Albendazole was included as standard reference and normal saline solution as control. The results of the present study indicated that plant extracts of *Cynas Circinalis* shows significantly anthelmintic activity when compared to the standard reference. Based on the findings of the present study concludes the traditional use of leaves of plant *Cynas Circinalis* as an anthelmintic.

Keywords: Helminths, Albendazole, Extracts

Introduction

Medicinal plants were the forceful foundation of many pharmacological activities. Among the plants of anthelmintic action have accomplished an excessive attention due the capability of the plant and its compound to treat a disease that causes major monetary loss and reduced livestock production to the livestock holders. The pathogenic infection causes the severe effect of humanity and other problems that were uncontrolled due to the anthelmintic resistance that is developed in the host organism [1]. Helminthiasis or infections with parasitic worms are pathogenic for human beings. Immature forms of the parasites attack human beings via the skin or gastrointestinal tract (GIT) and develop into well differentiated adult worms that have distinguishing tissue distribution. Anthelmintic are drugs that may act in the vicinity to expel worms from the GIT or systemically to eliminate adult helminths or development forms that assault organs and tissues [2] Anthelmintic drugs frequently destroy worms by either famished them to death or paralyzing them as worms don't stores the energy. Anthelmintic drugs show paralytic action due to this they don't have ability to uphold their position in gut. One of the most communal synthetic anthelmintic drugs used is Albendazole. Ideally the anthelmintic agent should have large scale of action and should have operative curing aptitude with single therapeutic dose, without causing any harm to host. The requirement for new and effective anthelmintic drug is massive, as the synthetic drugs used in the control of helminth is costly [3]. In the current work, screening procedure and attempts made by the researchers to evaluate the efficacy of plant extracts.

Experimental Work

All the experiments were carried out in Indian adult earthworms (*Pheretima posthuma*) collected from moist soil and washed with normal saline to remove all fecal matter, were used for anthelmintic activity.



Preparation of Test Samples

The collected plant seeds of *Cynas Circinalis* was dried under shade and undergone crushing in electric blender to form powdered and subjected to extraction by using soxhlet's apparatus. All the extracts were concentrated by evaporation at room temperature and were used for further studies. Test samples of various extracts were prepared at the concentrations 50 and 100mg/ml in double distilled water.

Experimental design for evaluation of anthelmintic activity

Anthelmintic activity of all prepared extracts was assessed by comparing the paralysis time and death time required for worms and comparing it with 20mg/ml albendazole as a reference standard and normal saline as control. All experiments were done in triplicate. The time for paralysis was noted when no movement of any sort could be observed except when the worms were shaken vigorously. Time for death of worms were recorded after ascertaining that the worms neither moved when shaken vigorously nor when dipped in warm water [4-6].

Results and Discussion

Albendazole is a safe, highly effective therapy for parasitic infections and an established standard drug in anthelmintic studies. The findings of *Cynas Circinalis* extracts were reported in table 1.

Table 1: *In vitro* anthelmintic activity of various extracts of *Cynas Circinalis*

S. No.	Group	Concentration (mg/ml)	Paralysis Time (in minutes)	Death Time (in minutes)
1	Control	-	-	-
2	Standard	20	20.55±1.25	34.25±0.50
3	Petroleum ether	50	41.25±1.40	88.10±1.25
		100	35.20±1.10	62.10± 1.80
4	Methanol	50	36.55±0.50	48.20±1.40
		100	29.25±1.80	42.25±1.35
5	Aqueous	50	37.10±1.10	54.20±1.20
		100	30.20±1.30	47.50±1.20

Conclusion

The detection of an effective remedy from plant origin will be a prodigious progression in the treatment of helminthic infections. Finally, the current study concludes the plant extracts found to possess significant anthelmintic activity in dose dependent manner. Based on the findings of the present study, plant extracts might have potential to be developed as constructive and safe anthelmintic substitute, but it demands more methodical study to find out the exact chemical responsible for anthelmintic activity of plant extracts as future prospective.

References

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