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EVALUATION OF ANTHELMENTIC ACTIVITY F AILANTHUS EXCELSA ROXB.

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Abstract

Maharukh or Mahaneem. Commonly known as tree of heaven is a large deciduous tree. Maharukh is large deciduous tree with a straight cylindrical bole. Its commonly found in sal forests but is rare in moist areas with high monsoons. Traditional this plant have been used in treatment of dysentery caused by worms. Thus present study aims to evaluate the anthelmintic properties of plant.PEE, EAE and ME (Extract) were used for Anthelmintic Activity . One of the best result Showed that Methanol extract of the leaves of Ailanthus excelsa is having potent Anthelmintic activity.

Key Words: Petroleum ether extract, ethyl acetate extract, Methanol extract,A.excelsa

Introduction

Ailanthus excelsa, In India, it is commonly known as MAHARUKH or MAHANEEM.Commonly known as tree of heaven, is a large deciduous tree found in India and Sri Lanka.[1] In Tamil, it is also known as Pi-Nari Maram due to its disagreeable odor. Traditionally plant have been used in the treatment of dysentery caused by worms. *Ailanthus excelsa* Roxb. is a large deciduous tree of up to 24 m height with a straight cylindrical bole.

Anthelmintics are used to treat people who are infected by helminths, a condition called helminthiasis. Anthelmintics or antihelminthics are a group of antiparasitic drugs that expel parasitic worms (helminths) and other internal parasites from the body by either stunning or killing them and without causing significant damage to the host.[2]

They may also be called vermifuges (those that stun) or vermicides (those that kill). Anthelmintics are used to treat people who are infected by helminths, a condition called helminthiasis. These drugs are also used to treat infected animals. Different drugs used for treatment eg.Albendazole, Tiabendazole, mebendazole, Fenbendazole, Triclabendazole, Flubendazole.[2]

Materials and methods:

Plant material

The leaves of the plant was collected from Walvade, Malegaon in Nasik district of Maharashtra and was authenticated by Mr. P. G. Diwakar, Joint Director, Botanical Survey of India, Koregaon road, Pune. (Voucher Specimen no.SGAIEPL1).

Test animal

Earthworms (*Pherotima posthuma*) of about 2-4 or 2.5to 4.5 cm long were used for anthelmintic activity, collected from Dinesh Patil Farm Walvade Region (Maharashtra).

Drugs and Chemicals

Ethyl acetate (PCL), Methanol (PCL), Petroleum ether (PCL), Mebendazole &Albendazole

Preparation of extract

A dried powdered leaf of A. excelsa was subjected to successive solvent extraction in Soxlet extractor using, methanol petroleum ether, ethyl acetate as solvent[3]. All the extracts were vacuum dried to produce PEE (2.76%), EAE (3%), ME (7.22%) Extracts respectively.

Photochemical screening of extracts

Various photochemical studies including test for proteins, carbohydrates, glycosides, steroids, flavonoids, tannins alkaloids, and phenolic compounds were carried out[4].

Evaluation of anthelmentic activity [5]

Five groups of approximately equal size earthworms 4 cm long consisting of five earthworms in each group were used for the present study. Group first serve as control, receive only normal
saline; Group second serve as standard, receives standard drug Mebendazole 5 mg/ml & Albendazole 5 mg/ml. Group third serve as petroleum ether; Group fourth serve as ethyl acetate, Group fifth serve as methanol extract of 20mg/ml. each. Observations were made for the time taken to paralysis and death of individual worms. Paralysis was set to occur when the worms do not revive even in normal saline.

Results and Discussion

In the present study it was observed that, methanol extract (ME) was more potent than the Other extract (table 1.). Methanol extract at the dose of 20 mg/Kg shows significant Anthelmentic activity (graph 1 and 2).

Table 1: Evaluation of anthelmintic activity: -

S.N	**Treatment**	**Time for Paralysis (min)**	**Time for death (min)**
1	Control	Control No paralysis (up to 15min)	No death (up to 15min)
2	Mebendazole 5mg/ml Albendazole (5mg/ml)	5.18	8.19
3	PEE (20 mg/ml)	24.16	44.31
4	EAE (20 mg/ml)	20.13	39.52
5	ME(20 mg/ml)	10.16	17.15

Conclusion

I can conclude that the Major constituents in the plants like glycosides, flavonoids, and phenolic compounds may be responsible for the anthelmintic activity of the plant. I can perform tests on various extracts of *A. excelsa plants* shows that methanol Extract of the leaves contain tannins glycosides, flavonoids and phenolic compounds.

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