Research Article

In Vitro Anthelmintic activity of peel extracts of *Cucurbita Maxima*

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ABSTRACT

Parasitic activity are most widespread among humans. Parasitic diseases cause ruthless morbidity affecting population in endemic areas and have been causing resistance in clinical areas. This study involves phytochemical screening and In Vitro Anthelmintic Activity of *Cucurbita Maxima* (Family- *cucurbitaceae*) using Indian adult earthworm. the earthworm are washed in normal saline solution . The hydro-alcoholic extract of peel of *cucurbita maxima* was taken at dose level concentration 25mg/ml, 50mg/ml and 100mg/ml. The result are compared with the standard drug Albendazole 25mg/ml, 50mg/ml concentration and it was found that the extract is having significant potential against helminthes infection.

Key words: *Anthelmintic Activity, Cucurbita Maxima, Parasitic activity, cucurbitaceae*

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INTRODUCTION

Nature always stands as a golden mark to exemplify the outstanding phenomena of symbiosis. Natural products from plant, animal and minerals have been the basis of the treatment of human disease.[5] Today estimate that about 80% of people in developing countries still relays on species of plant and animals for their primary health care. A large amount of archaeological evidence exist which indicates that humans were using medicinal plants during the Paleolithic, approximately 60,000 years ago.[3] Parasitic worms known as Helminthes and they act on intestine of human and animals. Parasitic worm also causes weakness, Body weight loss and various other factors.

Anthelmintic Drugs are used to treat parasitic worms causing infections in intestinal and various other parts of the body. The term helminthic has been derived from a Greek word meaning Worm. It was originally meant to refer to only intestinal worms.[4] Anthelmintic worm infection (Helminthiasis) is one of the global public health problem mostly in tropical countries. They harm byhim of food causing blood loss injury to organ, intestinal or lymphatic obstruction or by screening toxins. Helmenthiasis rarely fatal but it major cause of ill health development of resistance have not been a problem in the clinical use of Anthelmintic.[3] The medicinal

properties of *cucurbita maxima* includes as anti-diabetic, anti-oxidant, anti-inflammatory.

Etiology

There are literally thousands of different types of worms in the animal kingdom. They generally have long, cylindrical bodies with no separate limb. The word parasite itself comes from the old Greek word "parastos" meaning a person or thing which eats at someone else's table. This is exactly what a parasite dose: it feeds off the host's body weather this is animal, plant or human. Worm can cause various Gastro intestinal disorder and general symtoms. In addition some of them 10 can cause blood loss nutritional deficiency; urticarial and other allergic manifestation intestinal obstruction and hepatoplantory. Types of parasitic worms Flatworm such as tapeworm, Flukes such as blood **flukes etc.**

The basic aim for this is to evaluate in vitro anthelmintic activity for the peels of *cucurbita maxima*. Family**:** *cucurbitaceae* and *cucurbita maxima* is an annual herb with thick climbing or creeping stems. The root system is well developed and roots are up to 40cm deep and 5 m long. The stems are branching, coverd in soft white pubescence up to 10 m long**,** and often produce roots as nodes. The plant bears tendrils at 90 degree to the leaf axil; these are lightly pubescent , coiled and 5 branched .The thin leaves are Alternate, simple, round, un-lobed to shallowly 5-7 lobed obtuse**.**

MATERIALS AND METHODS

Collection of plant material

The *cucurbita maxima* was collected from the ground area of suddhowala and bauwalla, Dehradun, uttrakhand The material was cleaned from external parts and dried in shades for days and then was powdered using a grinder to a coarse powder the drug was then packed in an air tight container to avoid moisture.

Collection of Earthworm

The earthworms were collected from near Sudhowala nursery and department of agriculture, Dev Bhoomi Institue of Pharmacy and Research, Dehradun, Uttrakhand. They were washed with normal saline. The earthworms of 3-5cm length and 0.1-0.2cm in width and were used for present experimental protocol[11]. The earthworm resembles both anatomically and physiologically to the intestinal round worm parasites of human beings, they were used in the Anthelmintic Activity.

Preparation of hydro alcholic extract

Accurately weighed 50gm of coarsely powdered drug was washed with hydro alcoholic solution (ethanol and distilled water) in the ratio of (50:50) and it was allowed to macerate for 7 days with occasional shacking. After a week the liquid was filtered with the help of the muslin cloth and the drug material was pressed to liberate more menstrum from the marc. Both the extracts were mixed and the liquid was evaporated without heating to get hydroalcoholic extract.

Evaluation of the Anthelmintic Activity

Anthelmintic Activity was evaluated by exposing the [6],[8] adult earthworm (*pheritima posthuma*) to different

concentrations of Peels extract of *cucurbita maxima*.[4] In this method adult earthworms were collected then washed to remove adhering material. Clean and dried 6 petridish of equal size were taken. In no. 1 petridish 20ml of normal saline was poured. In petridish no.2 and 3 were 20ml of Albendazole solution containing 25 and 50mg/ml were poured. In petridish no-4, 5, 6 the 20ml solution of extract 25, 50 and 100 mg/ml were taken. six earthworms were introduced in petridish. The time taken for paralysis and the time taken for complete death of earthworm were recorded. The death of earthworm was confirmed by dipping it in hot water 50^0c.

RESULTS

Table:1 Effect of drug on animal for various parameters.

S. No.	Treatment	Concentration	Paralysis Time (minutes)	Death Time (Minutes)
1	Normal saline	-	No paralysis	No death
2	*Cucurbita maxima*	25mg/ml	112min(±2)	138 min (±2)
		50mg/ml	90min(±2)	117 min (±2)
		100mg/ml	74 min(±2)	80 min(±2)
3	Albendazole	25mg/ml	8min (±2)	23min(±2)
		50mg/ml	5min (±2)	17min(±2)

CONCLUSION

The anthelmintic activity of hydroalcoholic extract was compared with Albendazole standard. This drug is effective in broad range of helminthic infections. Preliminary phytochemical analysis detected carbohydrate, saponins and flavonoids. However the presence of plentiful amount of flavonoids in the peels of *cucurbita maxima*, the action shows good action potential helminthes. However activity was not found so much significant as compared the standard drug. From the results obtained by this evaluation the peels extract of the *cucurbita maxima* give rationale use of Anthelmintic activity.

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