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In-vivo Pharmacological activity of Leaf extract of *Cyclea peltata*

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ABSTRACT

India has one of the oldest, richest and most diverse cultural traditions associated with the use of medicinal plants. Medicinal plants are great importance to the health of individuals and communities in general. The medicinal value of plants lies in some chemical substances that produce a definite physiological action on the human body. The most important of these bioactive constituents of plants are alkaloids, tannins, flavonoids and phenolic compounds. In study, we are attempted to found various pharmacological activity such as Anti-inflammatory, anti-diabetic and Anti- microbial, present in *Cyclea peltata*.

Key words: *Cyclea peltata*, Anti Inflammatory, Anti- diabetic, Anti-microbial

INTRODUCTION

Cyclea peltata (Lam) Hook. F. & Thomas also belongs to Menispermaceae family, which is known as Rajpatha in various parts of India. A much-branched, climbing shrub found throughout South and East India and in the Andaman and Nicobar Islands. Roots tuberous; Leaves deltoid or ovate, acute, truncate or slightly sinuate at the base with rounded angles, mucronate, more or less hairy on the nerves and veins, margin often ciliate; flowers in axillary panicles. Male flowers subsessile, interruptedly spicate or collected into heads. Female flowers racemose, sepals oblong, glabrous. Petals orbicular, much shorter than the sepal; ovary pilose; berries drupaceous.

MATERIAL METHODS

A starch solution (0.1% w/v) was obtained by stirring 0.1g of potato starch in 100 ml of 16 mM of sodium acetate buffer. The enzyme solution was prepared by mixing 27.5 mg of alpha-amylase in 100 ml of distilled water. The colorimetric reagent is prepared by mixing sodium potassium tartarate solution and 3, 5 di nitro salicylic acid solution 96 mM. Both control and plant extracts were added with starch solution and left to react with alpha- amylase solution under alkaline conditions at 25°C. The reaction was measured over 3 minutes. The generation of maltose was quantified by the reduction of 3, 5 dinitro salicylic acid to 3- amino-5- nitro salicylic acid. This reaction is detectable at 540 nm (Malik and Singh, 1980).

RESULTS & DISCUSSION

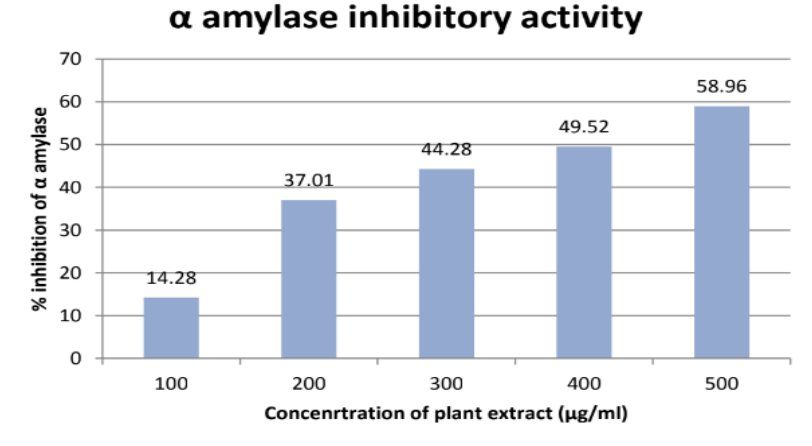
various parts of herbs were used directly as a medication. Clinically effective substances are now being obtained from plants, even those that have not been categorized before as medicinal herbs. Recently, traditional medicine (Phytotherapy) is often used to treat several diseases, besides modern medicine. A lot of natural extracts have been reported to have antidiabetic activities and are utilized for the treatment of diabetes. Herbal extracts have been used perfectly or ultimately for the processing of numerous modern medicines [10-12].

In this work, the inhibition activities of the extracts obtained from leaves of *Cylea peltata* was investigated on the α-amylase enzyme and IC50 values were calculated. As shown in the figure, in vitro α-amylase inhibitory studies demonstrated that the extract of both *Cylea peltata* had inhibitory activity of 58.96% at concentration of 500 µg/ml.

Fig: *Cyclea peltata*

Table: α-amylase inhibitory activity of leaf extract of *Cyclea peltata*

Concentration of plant extract(µg/ml)	Absorbance at 540 nm	Mean	% inhibition of α-amylase
100	1) 0.120 2) 0.094 3) 0.129	0.114	14.28%
200	1) 0.190 2) 0.185 3) 0.158	0.177	37.01%
300	1) 0.211 2) 0.215 3) 0.200	0.208	44.38%
400	1) 0.213 2) 0.225 3) 0.204	0.214	49.52%
500	1) 0.239 2) 0.239 3) 0.285	0.254	58.96%



CONCLUSION

Various parts of herbs were used directly as a medication. Clinically effective substances are now being obtained from plants, even those that have not been categorized before as medicinal herbs. Recently, traditional medicine (Phytotherapy) is often used to treat several diseases, besides modern medicine. A lot of natural extracts have been reported to have antidiabetic activities and are utilized for the treatment of diabetes. Herbal extracts have been used perfectly or ultimately for the processing of numerous modern medicines [10-12]. In this work, the inhibition activities of the extracts obtained from leaves of *Cylea peltata* was investigated on the α-amylase enzyme and IC50 values were calculated. As shown in the figure, in vitro α-amylase inhibitory studies demonstrated that the extract of both *Cylea peltata* had inhibitory activity of 58.96% at concentration of 500 µg/ml.

Conflicts of interest: The authors stated that no conflicts of interest.

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