PHARMA SCIENCE MONITOR
AN INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCES
Journal home page: http://www.pharmasm.com

PHARMACOLOGICAL EVALUATION FOR THE PRESENCE OF PROTEIN IN THE LEAVES OF CATHARANTHUS ROSEOUS.

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ABSTRACT
The antioxidant property of Catharanthus roseus is the basic principle for its use as an anti-diabetic agent. Ethanolic extract of the leaves of Catharanthus roseous was prepared and then was further taken for protein estimation following Bronsted and Lowry method of protein estimation. Immature, half mature and full mature leaves were taken and estimated for protein content and it was found that Immature portion of leaf possessed more amount of protein. Leaves of the plant was taken and powdered and then further ethanolic extract was prepared and stored in the dried form which was further used for biochemical estimation. The purpose of study is to find out protein content in the sample.

KEYWORDS: antioxidant, anti-diabetic, ethanolic extract.

INTRODUCTION
Diabetes mellitus is a chronic metabolic disorder characterized by hyperglycemia (high blood glucose concentration) caused by insulin deficiency, often combined with insulin resistance. Insulin is hormone released from β cells of pancreas and convert glucose (source of energy in body) to glycogen thus maintaining the glucose levels in the body. The deficiency of insulin leads to increase of glucose levels in blood and urine. Diabetes can also gives rise to other diseases like cataracts, cardiac problems, etc., There also occurs changes in biochemical parameters like cholesterol, urea, creatinine etc. The present study involves Catharanthus roseus (Apocynaceae) also known as medagarcia periwinkle, is a perennial shrub with green color simple, entire, petiolate leaves and violet pink-white or carmine red color flowers. It contains 150 alkaloids including vincristine vinblastine, ajmalicine, etc. The plant has been considered due to its wide range of pharmacological activity like anti-inflammatory, antimalarial, antimitotic, antihypertensive, antifertility, antihypercholesterolemic, antimitagenic, antidiuretic, antifungal, antispasmodic, antiviral, cardio tonic, CNS depressant, antitumor, cytotoxic, antispermatic, anticancer activities. The study involves whole plant of Catharanthus roseus.
for evaluating both antibacterial and antidiabetic activity. The present study involves *Catharanthus roseus* (Apocynaceae) also known as madagascar periwinkle, is a perennial subshrub with green color simple, entire, petiolate leaves and violet pink-white or carmine red color flowers.

**MATERIALS AND METHODS**

**PREPARATION OF SAMPLE**

Different leaf samples (immature, half mature, and mature leaf) of *Catharanthus roseous* were collected from the nursery of Rewa Agricultural college. These leaves were shade dried and then further powdered. About one and half kg of leaf powder was soaked in one litre of ethanol and kept for 48 hrs in a glass jar with the lid closed. Further with the help of muslin cloth, soaked powder was squeezed and liquid extract was obtained. Then this liquid extract was spread on petri plate and left for water to be evaporated and lastly dried powder was scratched and stored in glass bottle for further use. This process was carried for all the stages of leaves.

**ESTIMATION OF PROTEIN**

Protein was estimated by Lowry method of protein estimation (1951). As per this method, colour change of the sample solution is in proportion to protein concentration which can be measured using colorimetric techniques. In this case 100 mg arjuna powder was taken and mixed with 10 ml buffer (N/10 Acetic acid and N/10 Sodium acetate). Then it was centrifuged at 2500 rpm and supernatant was collected. About 0.5 ml supernatant was taken and 0.5 ml distill water was added to it, and to this about 5 ml of alkaline solution (NaOH+ Sodium potassium tartarate) and 0.5 ml of folin reagent was added. The optical density was measured at 600 nm.

**RESULT AND DISCUSSION**

The quantitative biochemical estimation of protein of leaves of anti-diabetic plant *Catharanthus roseous* was conducted and results are as given in the table below. As table reveals that amount of protein is highest in the half mature leaf which is in the range 27.428±2.444.

<table>
<thead>
<tr>
<th>Serial number</th>
<th>plant taken</th>
<th>parameter</th>
<th>Immature leaf</th>
<th>Half mature leaf</th>
<th>Mature leaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><em>Catharanthus roseous</em></td>
<td>Protein estimation</td>
<td>12.571±1.536</td>
<td>27.428±2.444</td>
<td>25.714±1.837</td>
</tr>
</tbody>
</table>
A chart representing mean (μg/mg) and S.E from the mean of protein content in 1) immature leaf 2) half mature leaf and 3) mature leaf of *Catharanthus roseous*.

**CONCLUSION**

The present evaluation of biochemical parameter protein will be helpful while standardizing the drug for its various pharmacological potentials such as its use as anti-diabetic agent and to check the adulteration in natural valuable drug at the time of consumption for desired pharmacological effect.

**REFERENCES**

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