INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCES
[ISSN: 0975-4725; CODEN(USA): IJPS00]
Journal Homepage: https://www.ijpsjournal.com

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Review Article

Phytochemistry And Materials Method of Cathanthus Roseus

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ARTICLE INFO

Published: 11 April. 2025
Keywords:
Catharanthus roseus- Antioxidant, alkaloids, anticancer activity.
DOI:
10.5281/zenodo.15197920

ABSTRACT

On the review phytochemical analysis and material of Catharanthus roseus (vinca roses) Various types of phytochemicals have been identified both qualitative as well their quantification had been carried out. The phytochemical screening was done for the selected plants. Carbohydrate, alkaloids, flavonoids, Turpenoid were present in Catharanthus rosea. Phytochemical analysis and the antioxidant properties of the plant are taken into consideration. Major anticancer drugs isolated from c. Roseus are oncovin and velban marketed world widely in millions of tones. This article provides evidence for clinical effectiveness for toxicity of approved phytoconstituents which is relevant for safety evolution of various Folksier and pharmacological activities.

INTRODUCTION

Catharanthus roseus is the native to the India ocean island of Madagascar. The Catharanthus roseus (L) G, Don (formerly Vinca rosea L., Apocynaceae) is the commonly called a Madagascar periwinkle. It is becoming more main stream as improvement in analysis and quality control with advance in clinical research shows the value of herbal medicine the treating and preventing disease. The Catharanthus roseus is an evergreen sub herbs plant growing to 1m tall. The leaves are oval to oblong 2.5 cm long and 1-3.5 cm broad glossy green hairless with a pale midrib and a short petiole about 1- 1.8cm long. Catharanthus roseus in an important medicinal plant of apocynaceae family which contains more than 70 different types of alkaloids and Chemotherapeutic agent that are the effective in treating various types of cancers breaste cancer lung cancer, melanoms, Hodgkin's and non-Hodgkin’s lymphoma. They are specially used for hypertension, diabetics, blood most cancers, Hodgkin's lymphoma, malaria, non-small lungs most cancers enhance memory. It additionally has antimicrobial interest antioxidant interest, Hypolipidimic interest and additionally wound restoration interest.

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Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Fig.1 Cathanthus Roseus

MATERIAL AND METHODS

Collection of plant material:

The flowers of c. auriculta leaves of D. reiga and V. rosea were collected from Brahmapurum vellore and were brough to the molecular and microbiology research laboratory, VIT university.

Chemical used -

2, 2 - Diphenyl - 1 - Picrylhydrazyl (DPPM) was purchased from sigma - Aldrich chemicals Co. Sodium phosphate (NaH4PO4), sodium carbonate (Na2CO3) was purchased from Himedia Labotories. Methanol, ferric chloride(fecl3), potassium ferricyanide (k3fe (CN)6). Trichloroacetic acid, folin - Ciocalteus reagent. All other chemicals used were of analytical grade.

Processing of the plant:

The flowers of c. Auriculta and leaves of V. Rosea and D. Regia were shade dried the solvent extract was kept in Rotaevaporator to evaporate the solvent completely and the resultant extract yield was measured. These extract was keep in air tight container, stored in refrigerator at 4°c for the experience mental use.

Phytochemical screening

Test for carbohydrates, fats, oils, phenol, flavonoids, protein, and tannins was discovered by using standard protocol of trease and Enavas 1989.

Extraction procedure for cathanthus roseus

About 60 grams of plant material was weight accurately and and the process of extraction was carried out using soxhlet apparatus which are used to get pure form of extract. Three solvent has been used in order of their increasing polarity. (Acetone, DMSO and water.

Extraction A Extraction B

Extraction

Medicinal important of of vinca rosea. Anti-cancer Activity

Vinca rosea has anti-cancer Activity that revealed in some studies. This activity is due to presence of ' ' vincristine & vinblastine '. These alkaloids present in leaf and steam of the plant. Vinblastine is used for treatment of carcinoma and vincristine is used for leukemia.

Antioxidant Activity

Some ethanol compounds are found in the plant body, mainly located in the roots. There are responsible for the antioxidant activity. Mostly rose and white flowers plant possess ethanol compound.

Antidiabetic activity

The ethanol compounds are also responsible for antidiabetic activity. This also help to reduce by blood sugar level in human body. In addition of this it also made impact of hypoglycemia effect.

Qualitative analysis Flavonoids & Tannins

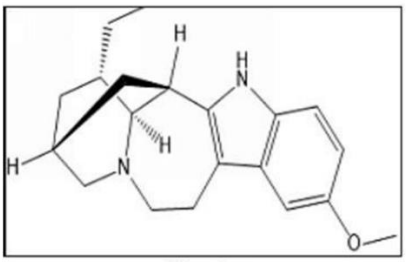
The extracts and crude dried powers of nyctanthes arbortristis, nerium oleander and cathanthus roseus were subjected to qualitative analysis for presence of chemical constituents of nyctanthes arbortristis, nerium oleander and cathanthus roseus by performing various chemical test

Alkaloids

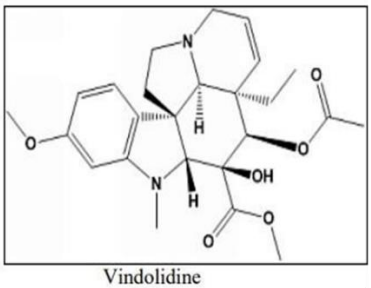
Wagner's reagents (Iodine - potassium iodide solution) iodine:

(1.2 g) and of potassium iodide (2.0 g) were dissolved in 5 ml of H2SO4 and the solution was diluted to 100 ml, 10ml of plant extract was acidified by adding 1.5 % v/v HCl and a few drops of Wagner's reagent the formation of a Wagner's reagents. The formation of a yellowish-brown precipitate confirmed the presence of alkaloids.

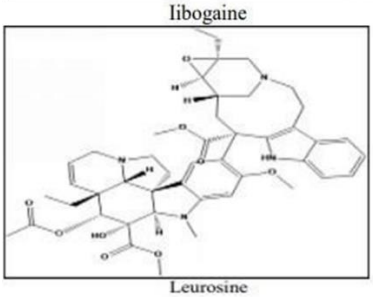
Alkaloids



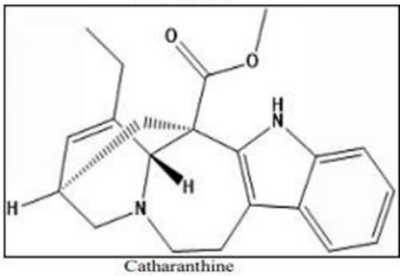
Iibogaine



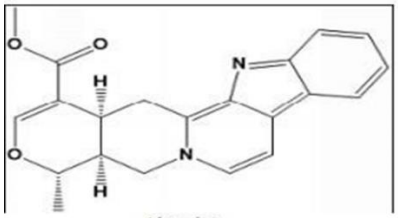
Vindolidine



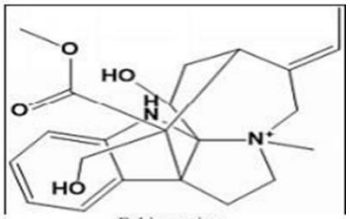
Leurosine



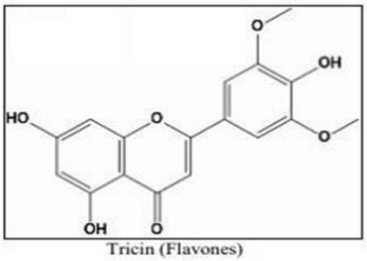
Catharanthine



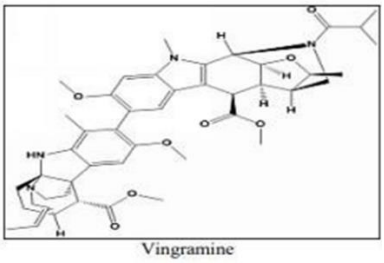
Alstonine



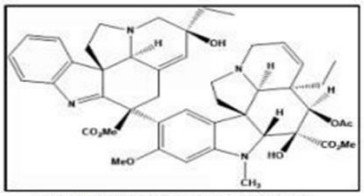
Echitovenine



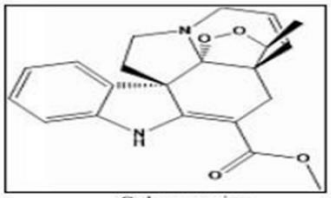
Tricin (Flavones)



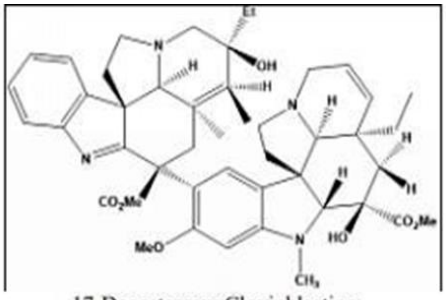
Vingramine

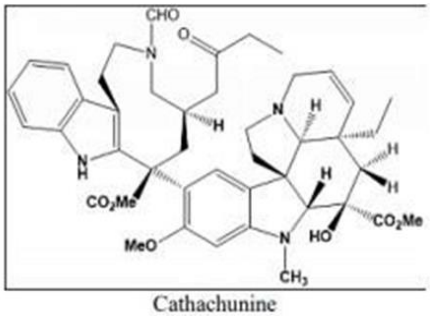


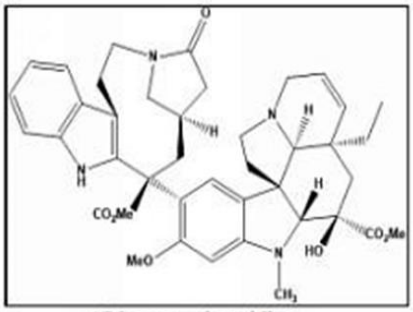
14',15'DidehydrOcyclovinblastine

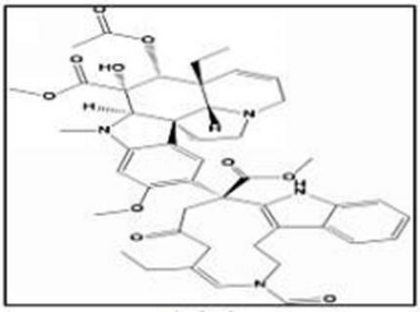


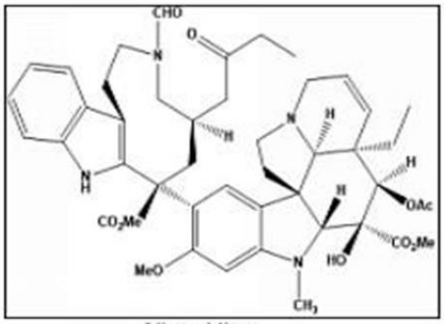
Catharoseumine

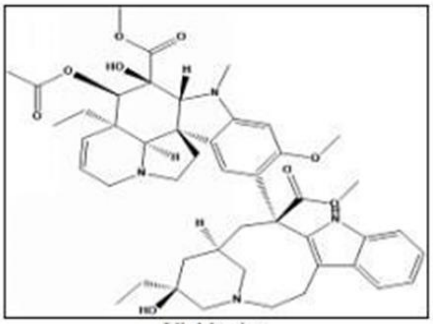

17-Deacetoxycy Clovinblastine

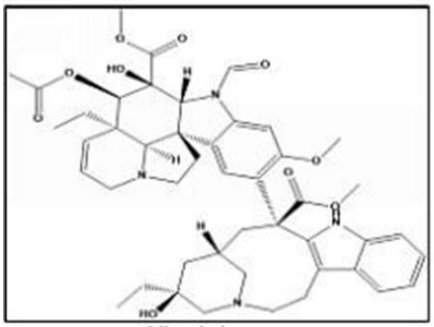

Cathachunine

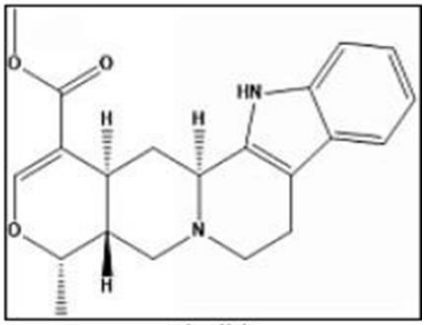

17decetoxyvinamidine


Catharine


Vinamidine


Vinblastine


Vincristine


Ajmalicine

Terpenoids

To take a 1 ml of crude extract add 1 ml of conc. H2SO4 and then heated the solution for the 2 minutes. grayish colour are formed terpenoids are present.

Steroids

1 ml of extract are mix with the 1 ml chloroform and add concentrated H2SO4 sidewise and red colour indicated at the lower chloroform layer are formed into presence of steroids.

Hypotensive Activity -

The extract an obtain from the leaves (hydro alcoholic or dichloromethane - methanol) caused significant changes in hypotensive properly

Scientific position of vinca rosea (cathanthus roseus)

Kingdom : Plantae
Division : Magnoliophyta
Class : Magnoliopsida
Order : Gentianales
Family : Apocynaceae
Genus : Catharanthus
Species : C. roseus
Binomial name: cathanthus roseus (L.) G. Don
Synonyms : Vinca rosea

Fig.2 Prevalent Botanical Characteristics

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HOW TO CITE: Pooja Gidhad*, Ujjwala Ghule, Shivam Gangurde, Smita Ghuge, Phytochemistry and Materials Method of Cathanthus Roseus, Int. J. of Pharm. Sci., 2025, Vol 3, Issue 4, 1412-1417 https://doi.org/10.5281/zenodo.15197920