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VISION

To emerge as one of the premier pharmacy colleges in the country and produce pharmacy professional of global Standards.

MISSION

• To deliver quality academic programs in Pharmacy and empower the students to meet industrial standards.
• To build student community with high ethical standards to undertake R&D in thrust areas of national and international standards.
• To extend viable outreach programs for the health care need of the society.
• To develop industry institute interaction and foster entrepreneurial spirit among the

NEW DRUG DEVELOPMENT BY USING *CROSSANDRA FLOWER* AGAINST *MYCOBACTERIUM TUBERCULOSIS*

S Srija, Pharm D VI Yr

Introduction

Plants are a great source for novel drug compounds and medicines derived from plants have made large contributions to human health and wellbeing. *Crossandra infundibuliformis* belonging to the family Acanthaceae, is well known for its medicinal properties in various region of India and Sri Lanka.

Crossandra Infundibuliform

- It is an erect, evergreen shrub growing to 1 m with glossy, wavy-margined leaves and fan-shaped flowers, which may appear at any time throughout the year.
- The flowers are unusually shaped with 3 to 5 asymmetrical petals. They grow from four-sided stalked spikes, and have a tube-like 2 cm stalk. Flower colors range from the common orange to salmon-orange or apricot, coral to red, yellow.
- It is understood to have the activities such as hepatoprotective, antibacterial, antifungal, anticandidal and larvicidal activity. Its flower part is used in Various conditions like fever, headache, pain and wound healing. There are many phytochemical constituents, minerals and the functional groups present in *Crossandra infundibuliformis* flower extract.

Phytochemicals	Medicinal Properties
Saponins	Anti - Cancer Property
Flavonoid's	Anti-Inflammatory Property and Anti - Viral Property
Glycosides	Analgesic
Terpenoids	Anti - Inflammatory, Atherosclerotic

Cultivation: Well drain sandy loam and red soil with PH 6-7.5 was selected and tested by botanist, fresh seed should be sown in the small area, watering should be done daily for 60 days to get seedlings later distributed to fields.

Propagation: Dip the plants end into rooting hormone powder, and then plant the cutting in the soil.

Harvesting: Fully opened flowers are to be picked early in the morning by pulling the corolla out of calyx.

Storage: Should be maintained at 18-24^{0}cand day temperature at an average of 24^{0}c .

Packaging: The flowers are loosely packed in polymeric film bag.

QUALITATIVE PHYTOCHEMICALS SCREENING:

- TEST FOR FLAVONOIDS - To one ml of the extract, a few drops of dilute sodium hydroxide were added. An intense yellow colour was produced in the plant extract, which became colourless on addition of a few drops of dilute acid indicating the presence of flavonoids.
- TEST FOR TRITERPENOIDS- 10 mg of the extract was dissolved in 1 ml of chloroform to which 1 ml of acetic anhydride was added following the addition of 2 ml of concentrated sulphuric acid. Formation of reddish violet colour indicated the presence of triterpenoids.
- TEST FOR STEROIDS - 10 mg of the extract was dissolved in 2 ml of chloroform. Sulphuric acid was carefully added to form a low layer. A reddish brown colour at the interface indicated the presence of steroids.
- TEST FOR ANTHRAQUINONES- 2 ml of the extract was hydrolyzed with concentrated sulphuric acid and 1ml of dilute ammonia was added. Appearance of rose pink colour was the positive response for the presence of anthraquinones.

In-Vitro Screening of Extracts *of Crossandra Infundibuliformis* against Mycobacterium Tuberculosis By Alamar Blue Assay Method :-

- The anti-mycobacterial activity of compounds was assessed against M. tuberculosis using Microplate Alamar Blue assay (MABA). This methodology is non-toxic.
- A micro plate consist of the well taken, consist of mycobacterium tuberculin and was coated with this pigment which was extracted

- Plates were covered and sealed with Para film and incubated at 37ºC for five days.
- After this time, 25µl of freshly prepared 1:1 mixture of Alamar Blue reagent and 10% tween 80 was added to the plate and incubated for 24 hrs.
- A blue color in the well was interpreted as no bacterial growth, and pink color was scored as growth.

Conclusion:

The study on antimycobacterial activity of *Crossandra infundibuliformis* reveals that the methanol and ethyl acetate extract of leaves of *Crossandra infundibuliformis* possess antimycobacterial effect against the clinical strains of Mycobacterium tuberculosis studied by Alamar blue assay method. The MIC of methanolic extract of flower and ethyl acetate extract of leaf is sensitive at 3.12µg/ml concentration.

Reference:

1. Li Y,Chen Y,Sun-waterhouse D. The potential of dandelion in the fight against gastrointestinal diseases.
2. Pamela Ovadje etal. Oncotarget 2016- Dandelion root extract affects colorectal cancer proiferation and survival through the activation of multiple death signalling pathways.

REVIEW ON THERAPEUTIC BENEFITS OF DANDELION

J Pravallika, Pharm D IV Yr

Introduction:

Dandelion is a perennial herb, generic name “TARAXACUM OFFICINALE” belongs to the family Asteraceae found mostly in North America, Europe and Asia. Dandelion roots, leaves, flowers and different parts has therapeutic benefits. In Greek words “Taraxon” means disorder ‘Akos’ means remedy and ‘officinale’ means plant having medicinal properties. The phytochemicals extracted from roots, flowers, leaf, stem, of Dandelion have many medicinal properties. The main phytochemicals present in the dandelion plant are polysaccharides (eg. Inulin); carotenoids, flavonoids (eg. Quercetin, chrysoeriol, luteolin-7-glucoside), phenolic acids (eg.caffeic acids, chicoric acid, chlorogenic acid) sterols (eg.taraxasterol,beta-sitosterol, stigmasterol).

The different therapeutic activities of TARAXACUM OFFICINALE is described as

- ANTIVIRAL ACTIVITY: Some studies showed that Dandelion extract has the invitro antiviral activity by Inhibiting Reverse transcription and replication in Human Immunodeficiency Virus (HIV-1) and by Inhibiting virus replication in Influenza and also Hepatitis B Virus (HBV).

- ANTICANCER ACTIVITY: Some studies showed that Dandelion extract blocks proliferation and growth of colorectal, breast and prostate cancerous cells. This plant extracts exhibits programmed cell death in different cancerous cells. Inhibits proliferation by regulating phosphatidylinositol-3-kinase (PI3K) / protein kinase B (AKT) pathway in breast cancer
- ANTIDIABETIC ACTIVITY: This plant has hypoglycemic effects . The leaf extracts from this plant lowers the fasting glucose level in the blood and insulin resistance. Inhibits alpha- glucosidase and alpha-amylase to exhibit the hypoglycemic activity.
- ANTIBACTERIAL ACTIVITY: The phytochemicals of Dandelion like polysaccharides and oligosaccharides has antibacterial activity against various bacteria like Staphylococcus aureus, Escharichia coli, Bacillus subtilis, Bacillus cereus, Klebsiella pneumoniae.
- ANTICOLITIS ACTIVITY: Some studies shown that extracts of Dandelion has the activity against Roots extracts like polysaccharide and Taraxasterol have activity against Ulcerative Colitis and Acute Colitis.

Conclusion:

TARAXACUM OFFICINALE has many therapeutic benefits like antiviral, anticancer, antioxidant, antidiabetic, anticolitis, antibacterial activities. This plant has various uses in treatment and prevention of different disease conditons but for effects use and validity of medicinal properties of this plant (TARAXACUM OFFICINALE) need further reaserch.

Reference:

1) Fonyuy Ewringo et.al.Rev Diabet stud.2016 summer-Fall- The physiological effects of Dandelion (Taraxacum Officinale) in Type-2 Diabetes.
2) Gonzalez-Castejon M,et. al. Nutr.Rev.2012 – Diverse biological activities of Dandelion

BEXAGLIFLOZIN DRUG PROFILE

Humera Khanam, Pharm D Internee

Category:

Hypoglycemic agent.

Class:

- Sodium Glucose Co-transporter 2 (SGLT2) inhibitor.

Brand Names:

- Brenzavvy.
- Bexacat.

Dosage form:

- Tablets.

Indications:

- To improve glycemic control in adults with Type 2 diabetes as an adjustment to diet and exercise (not in Type 1 diabetes).
- It may also reduce body weight, systolic blood pressure and albuminuria (but most of these have not been fully elucidated).

Approval Date:

- January 23, 2023.

Pharmacodynamics:

- In case of T_2DM, single or multiple doses of Bexagliflozin had dose – dependent increases in UGE (Urinary Glucose Excretion) accompanied by increase in urine volume.
- The use of Bexagliflozin may cause ketoacidosis, volume depletion, urosepsis, pyelonephritis, necrotizing fasciitis of the perineum and genital mycotic infection.

Absorption:

- In fasted state, C_{max} =134 ng/ mL

  $AUC_{0-\infty}$=1.162 ng.h/ mL

- Peak plasma concentration is reached between 2 and 4 hours after oral administration.
- This timing can be delayed if it is takes after a meal or medications that slows gastric emptying.

Volume of Distribution:

- 262 litres.

Protein Binding:

- Approximately 93% is bound to plasma protein.

Metabolism:

- Metabolised mainly in the liver by UGT1A9 and to be a lesser extend by CYP3A.
- 3' – O – glucuronide, a pharmacologically inactive metabolite (32.2% of the parent compound AUC) and other metabolites (< 10% of the parent compound AUC).

Excretion:

- It is mainly excreted through feces and urine (51% was recovered in feces and 40.5% through urine).

Half – Life:

- $T^{1/2}$= 12 hours.

Toxicity:

- Invitro and invivo studies found that Bexagliflozin was not mutagenic and or clastogenic.
- Fertility studies done in males and females rats showed that Bexagliflozin had no effects on mating, fertility or early embryonic development at upto 200 mg/kg/day, which corresponds to 280 and 439 times the clinical dose of Bexagliflozin in males and females respectively.

Mechanism of Action:

It is a highly selective sodium – glucose co – transporter 2 (SGLT2) inhibitor

↓

SGLT2 is located in the proximal renal tubule, a part of the kidney where most reabsorption takes place and they transport glucose and sodium from the tubular lumen to the epithelium.

↓

By inhibiting SGLT2, Bexagliflozin reduces glucose reabsorption in the kidney and promotes its excretion in urine.

↓

Therefore, in patients with T_2DM,it reduces blood glucose levels independently of insilun sensitivity.

Drug Interactions:

- Carbamazepine + Bexagliflozin
- Chlorpropamide + Bexagliflozin

Adverse Effects:

- Volume depletion
- Increased urination
- Urinary tract infections
- Female genital mycotic infections
- Increased LDL – Cholesterol by 3 mg/dL

Contraindications:

- Hypersensitivity
- Dialysis

Departmental Activities January-2023:

No of Patients Screened	Drug Information Queries	Adverse Drug Reactions	Medication Errors	No of Prescriptions Audited
1145	39	30	03	1265

Perfect Click

Ankuram-Freshers Day Celebrations

Sankranthi Sambaralu- 2023

National Youth Day

Dr M Niranjan Babu Birthday Celebrations

Republic Day Celebrations

Orientation Programme