



JKK MUNIRAJAH INSTITUTE OF HEALTH SCIENCES COLLEGE OF PHARMACY

(Approved by Tamil Nadu Govt. & Pharmacy Council of India - New Delhi, Affiliated to The Tamil Nadu Dr. M.G.R Medical University, Chennai)
Thookanaickenpalayam, Gobichettipalayam (TK), Erode (DT) - 638506, Tamil Nadu.

ACADEMIC YEAR 2020-2021

S. No	Title of Paper	Name of Authors	Name of Journals	Is it listed in UGC Care list
1.	New RP-HPLC method development and validation for trioxsalen in tablet dosage form	DR. K.K. Senthil Kumar DR. P. Perumal	International Journal of Pharmacy and Analytical Research	Yes
2.	Analysis of Inhibitory Propensity and Percentage Inhibition of Tecoma stans and Plectranthus vettiveroides Leaves against Escherichia coli ESBL Enzyme in Namakkal District Broilers, Tamil Nadu, India	DR. K. Abhenaya	Journal of Pharmacy and Pharmacology	Yes
3.	Antihyperlipidemic activity of flower extract of Tecoma stans against dexamethasone-induced hyperlipidemia in rats	DR. K. Abhenaya	International Journal of Allied Medical Sciences and Clinical Research	Yes



Principal

JKK Munirajah Institute of Health Sciences
College of Pharmacy, T.N. Palayam,
Gobi (Tk), Erode (Dt) - 638 506



INTERNATIONAL JOURNAL OF PHARMACY AND ANALYTICAL RESEARCH

ISSN: 2320-2831

IJP AR | Vol.10 | Issue 1 | Jan - Mar -2021
Journal Home page: www.ijpar.com

Research Study

Open Access

New RP-HPLC method development and validation for trioxsalen in tablet dosage form

Senthil Kumar KK*, Perumal P

Sun Rise University, Alwar-301030, Rajasthan, India.

*Corresponding author: Senthil Kumar KK
E-mail: kksenthil.a@gmail.com

ABSTRACT

A new simple, accurate, rapid and precise Gradient High performance liquid chromatographic (HPLC) method was developed and validated for the determination of Trioxsalen C18 Column (4.6 x 150 mm and 3.5 μ m) and flow rate of 1.2 ml/min with a load of 20 μ l. phosphate buffer (PH-3.9) was used as mobile phase A Methanol was used as Mobile Phase B and Diluent as Water: acetonitrile in the composition of 50:50. The Detection was carried out at 248nm. This newly developed method was successfully utilized for the Quantitative estimation of Trioxsalen in pharmaceutical dosage forms. This method was validated as per ICH guidelines.

Keywords: UV -Ultraviolet visible, μ g -Micro gram, ml- Milliliter, nm- Nano meter, RP-HPLC-Reverse phase chromatography

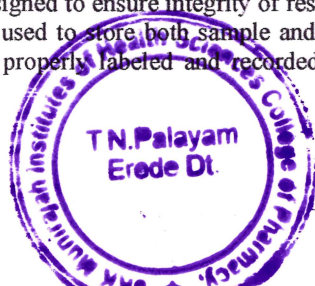
INTRODUCTION

The goal of every chemical analysis is to obtain the required information within a period of time acceptable to the customer. This means that the analyst must know what information is needed to solve the current problem. Once the goals and limits of the analysis are defined and the literature search is completed, a more detailed plan of action must be developed. The analyst selects the method or combination of methods most likely to provide the desired information. A good analyst is always alert to the chemistry involved in the analysis as well as instrumental techniques. Thus, a combination of chemical and instrumental techniques may be used. Major components to be considered in planning an analysis are shown in fig each component is important in obtaining reliable information from the analysis. Field sampling and laboratory sub-sampling procedures must be designed to ensure integrity of results. Proper procedures must be used to store both sample and standard. All samples must be properly labeled and recorded. Laboratory operations are

often performed on samples before measurement. Analytical chemistry is a branch of chemistry that deals with the separation, identification and determination of components in a sample. It is the science of making quantitative measurements, which requires background knowledge of chemical and physical concepts of chemistry.

Analytical method development

Documentation starts at the very beginning of the development process. A system for full documentation of development studies must be established. All data relating to these studies must be recorded in laboratory notebook or an electronic database. The number of drugs introduced into the market is increasing every year. These Drugs may be either new entities or partial structural modification of the existing one. Very often there is a time lag from the date of introduction of a drug into the market to the date of its inclusion in pharmacopeias. This happens the possible uncertainty's in the continuous and wider usage of these



www.ijpar.com

~38~

Principal

Munirajah Institute of Health Sciences
College of Pharmacy, T.N. Palayam,
Gobi (TK), Erode (Dt) - 638 506

Analysis of Inhibitory Propensity and Percentage Inhibition of *Tecoma stans* and *Plectranthus vettiveroides* Leaves against *Escherichia coli* ESBL Enzyme in Namakkal District Broilers, Tamil Nadu, India

S. Kameshwaran¹, K. Abhenaya², R. Manivannan³, N. Elavarasan⁴, D. S. Asok Kumar⁴, J. Priya² and V. Priyanka⁴

1. Department of Pharmacology, Excel College of Pharmacy, Namakkal, Tamil Nadu 637303, India

2. Department of Pharmaceutical Chemistry, JKKMIHS College of Pharmacy, Gobi, Erode, Tamil Nadu 638506, India

3. Department of Pharmaceutics, Excel College of Pharmacy, Namakkal, Tamil Nadu 637303, India

4. Department of Pharmaceutical Chemistry, Excel College of Pharmacy, Namakkal, Tamil Nadu 637303, India

Abstract: On samples phenotypically positive for extended-spectrum beta-lactamase (ESBL)-producing *Escherichia coli*, the inhibitory potential and percent inhibition of fresh juice from *Tecoma stans* and *Plectranthus vettiveroides* leaves on beta-lactamase enzyme of cecal samples of healthy broilers were tested. Two hundred (200) samples of cecal treated for ESBL-producing *E. coli* were obtained from 38 Namakkal poultry selling outlets. The impacts of *T. stans* and *P. vettiveroides* leaves were interpreted as chromogenic substrate by colorimetric assay with CENTA and nitrocefin. The mean absorbance value of the inhibitory potential was inversely proportional. *Tecoma stans* exhibited 29% and 31% of CENTA and nitrocefin inhibition, respectively. The mean absorbance value of *Plectranthus vettiveroides* and the 10.0% inhibition of CENTA and nitrocefin in both ($p > 0.05$) showed no significant difference in CENTA and nitrocefin activity. As normal regulation, tazobactam (100 μ M) exhibited a 99.89% and 98.31% inhibition against CENTA and nitrocefin, respectively. The combination of *Plectranthus vettiveroides* and *Tecoma stans* showed 14% to 15% inhibition, respectively, with CENTA and nitrocefin. Results showed that beta-lactamase enzyme activity which inhibited with *T. stans* was higher than *P. vettiveroides* leaf juice and the combination of the two herbs showed no substantial difference in activity.

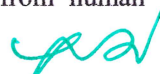
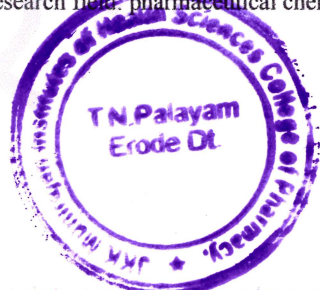
Key words: CENTA, colorimetric assay, *Escherichia coli*, ESBL, nitrocefin, *Plectranthus vettiveroides*, *Tecoma stans*.

1. Introduction

Poultry farmers face a gigantic antimicrobial resistance crisis. Intense poultry rearing is nowadays very popular. The use of antibiotics by poultry farmers at low doses as growth promoters to the entire flock contributes to high demand for antibiotic selection. This also results in a higher proportion of resistant bacteria in poultry fecal flora. *Escherichia coli* mainly produces resistant phenotypes in the poultry population and, thus, commensally *E. coli* serves as an indicator bacterium in the Gram-negative species

group [1]. The first experimental study of stretched-spectrum beta-lactamase (ESBL) was conducted in 1989. *E. coli* land was obtained from ear discharge from Munich (Germany) of a very young child aged 4 months. CTX-M-1 was known; here, CTX means cefotaximase and M means Munich. Another cefotaximase called MEN-1 was obtained from an Italian patient in France, similar to CTX-M-1 [2, 3]. CTX-M-2 was collected in Argentina from *Salmonella typhimurium* isolated from patients suffering from meningitis, septicemia and enteritis. Kumar *et al.*, in 2012, reported 55.55% ESBL, including 66.67% from blood, 65% from aspirate, 57.14% from human waste, 55% from wound and

Corresponding author: K. Abhenaya, associate professor, research field: pharmaceutical chemistry.



Principal

JKK Munirajah Institute of Health Sciences
College of Pharmacy, T.N. Palayam,
Gobi (Tk), Erode (Dt) - 638 506



International Journal of Allied Medical Sciences and Clinical Research (IJAMSCR)

ISSN: 2347-6567

IJAMSCR | Volume 8 | Issue 3 | Jul - Sep - 2020
www.ijamscr.com

Research article

Medical research

Antihyperlipidemic activity of flower extract of *Tecoma stans* against dexamethasone-induced hyperlipidemia in rats

Dr.N.Sriram¹, Dr. Rajaneekar Dasari², Kameshwaran.S³, Asok Kumar DS⁴, Abhenaya.K⁵

¹Department of Pharmaceutics, HITS College of Pharmacy, Bogaram, Hyderabad. India.

²Department of Pharmacology and Toxicology, Medical College of Georgia, Augusta University, Augusta, GA 30912

³Department of Pharmacology, Excel College of Pharmacy, Namakkal, Tamilnadu

⁴Department of Pharmaceutical Chemistry, Excel College of Pharmacy, Namakkal, Tamilnadu.

⁵Department of pharmaceutical chemistry, JKK munirajah institute of health sciences College of Pharmacy, Gobi, Erode.

*Corresponding Author: Dr.N.Sriram

Email: srirampharma@gmail.com

ABSTRACT

Introduction

Natural products derived from plants kingdom play a vital part in preventing or treating various diseases or disorders in humans. Hyperlipidemia is one of the major pathological factors of cardiovascular diseases and diabetes mellitus. On the other hand, *Tecoma stans* belonging to the family Bignoniaceae, was found to possess many pharmacological activities such as anti-inflammatory, antibacterial, and anti cancer activities along with CNS depressant activities.

Materials and Methods

The present study is an attempt to investigate its antihyperlipidemic activity by in vivo animal model. Hyperlipidemia model can be induced by administered with dexamethasone in rats with significant increase in serum cholesterol and triglyceride (TG) levels along with increase in the atherogenic index.

Results

The ethanolic extract of flowers of *T.stans* (200 and 400 mg/kg) treatment has shown significant inhibition against dexamethasone-induced hyperlipidemia in rats by maintaining the serum levels of cholesterol, TGs and near to the normal levels.

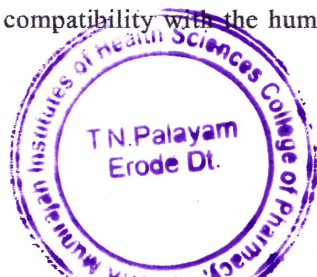
Keywords: Tecoma Stans, Dexamethasone, Hyperlipidemia, Cholesterol and Triglyceride

INTRODUCTION

Around 80% of the world population uses the herbal medicines for primary health care mostly in the developing countries. [1] Because of their safety, efficacy, cultural acceptability, better compatibility with the human body and lesser side

effects, they stood still. There was mention about the usage of herbal medicines for age-related diseases such as memory loss, diabetic wounds, osteoporosis, and immune and liver disorders in various ancient literatures, for which no modern medicine or only palliative therapy is available.

622



Principal
JKK Munirajah Institute of Health Sciences
College of Pharmacy, T.N. Palayam,
Gobi (TK), Erode (Dt) - 638 406