



Criteria 3- Research, Innovations and Extension

Key Indicator 3.3 - Research Publication and Awards

3.3.3 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

DVV Query

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2) Web-link of research papers by title, author, Department/ School/ Division/ Centre/ Unit/ Cell, name and year of publication

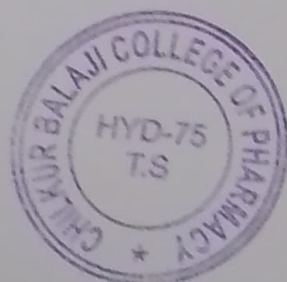
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First page of selected publication and book are given below.

Web-link of research papers by title, author, Department and year of publication is also given below as a link.

INDEX

<u>S.No</u>	<u>Particulars</u>
1.	First page of selected publication and book
2.	Web-link of research papers



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ACADEMIC YEAR

2022-21

**FORMULATION DEVELOPMENT & IN-VITRO EVALUATION OF PACLITAXEL
USING B-CYCLODEXTRIN CAPPED SILVER NANOPARTICLES.**

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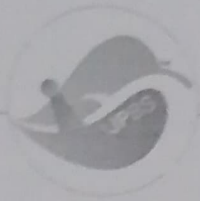
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ABSTRACT

Nanoparticles are formulated to target the drug to the specific organ site and to control the rate of delivery of the drug. By encapsulating a drug into nanostructures, the being of the drug in the systemic circulation can be prolonged and thus improve perforation into the target tissue and decrease the toxicity. The main aim of this study is to achieve prolonged release of paclitaxel such that the dosing frequency of the drug can be reduced by which we may decrease the side effects and improve patient compliance. By formulating paclitaxel as nanoparticles, we can directly deliver the drug to the cancer cell and prevent the normal cells from the adverse effects of paclitaxel. Investigation of the preparation, characterization, and in-vitro delivery of the nanoparticles was carried out. The different formulations with different concentrations of drug-polymer and surfactant were examined and finalized which can accomplish belongings in drug encapsulation and drug delivery kinetics of the nanoparticles.



Description of Pharmaceutical Tablet Punching Machine

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Abstract

Tablet press tool since its invention 19 century improving the efficiency of the basic model by studying various parameters, overcoming their problems, and developing into a fully automated machine meeting the demands of high quality with low-cost medicines production in time to ever-growing population, complying with cGMP (current good manufacturing practices) cleanliness standards, multiple ailments. Every pharmacy institution plans to have either of the tablets punching machine for sure. Various manufacturers develop their tablet press with improvised number of punches, stations, compression points and its speed. Hence there is a need to study and understand the whereabouts of pharmaceutical tablet punching machine like its principal, working and types of tablets prepared on them by any or combination of three established methods i.e., compression granulation, wet granulation, and direct compression. The common tableting process defects caused and to overcome these problems by the tablet press tooling and performance to be evaluated parameters are studied to estimate the working efficiency of the machine at every stage with the help of ISTMs (instrumented single tablet punching machine), IRTMs (instrumented rotary tablet punching machine) investigated with the achieved data is interpreted for selection of suitable tablet press to work on.

Keywords

Dies, IRTMs, ISTMs, pharmaceutical tablet punching machine, punches

DEFINITION: Pharmaceutical tablet press also known as tablet punching machine and tablet compression machine is a mechanical device that compresses powders or granules into tablets of uniform size shape and weight containing approximately the same quantity of active pharmaceutical ingredient and excipient [1,2].

INVENTION: In 1843 patent on tablet punching machine received by William Brockedon.

DESCRIPTION OF TABLET PUNCHING MACHINE: It includes pictures of single punch tablet machine, rotary type tablet punching machine and compression cycle with tooling systems with labeling parts. coating of the tooling systems with various metals.

GENERAL INFORMATION

MATERIAL: stainless steel.

FEED FRAME: chrome plated gun metal.

POWER: 5.5KW

NUMBER OF STATIONS: 8-65

MAXIMUM DEPTH OF FILL: 50mm

MAXIMUM SIZE OF TABLET: 100 mm

DIE DIAMETER: 130mm.

DEPTH OF DIE: 90 mm.

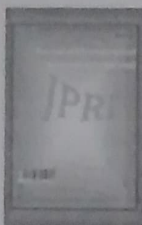
MAXIMUM STROKE PRESSURE: 20-25 per minute

MAXIMUM STROKE PRESSURE: 25-30 Tons approximately.

ELECTRIC MOTOR: 5H.P/440V/50 CYLS/PHASE /960 RPM.

LUBRICATION: oiling and greasing.

CAPACITY: 1,000,000 tablets per hour.



In-vitro Antioxidant and DPP-IV Enzyme Assay of Ethyl Acetate Extract of *Enicostemma littorale*

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Original Research Article

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ABSTRACT

Background: Pharmacological treatments for diabetes are based on increasing insulin availability and improving insulin sensitivity. Today, glucagon-like peptide 1 (GLP-1) -based therapies aim to control glucose through DPP-4 inhibitors. DPP-4 is a transmembrane glycoprotein belonging to the prolyl oligopeptidase family, with the specificity of eliminating the X-Pro or X-Ala dipeptides from the N-terminal end of the polypeptides. The effect of GLP-1 in stimulating the release of glucose-dependent insulin from pancreatic islets inhibits inappropriate glucagon release after meals and slow gastric emptying promotes intestinal permeability.

Study Design: The current study investigated the inhibitory activity of DPP-4 along with the antioxidant activity of *Enicostemma littorale* extract.

Place and Duration of Study: The present study was conducted at Anurag University, Hyderabad between June-2021 to Sept-2021.

PIGS BECOME PROMISING ANIMALS FOR XENOTRANSPLANTATION CORRECTING HUMAN ORGAN TRANSPLANT CRISIS

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ABSTRACT

Xenotransplantation/ cross species transplantation is the transplant/implant/ infusion from a non-human animal to humanbeings.^[1] Many trails are made in this aspect as there is a demand for organs in place of failed organs and many deaths reported with vital organs deficiency. Primate organs failed because of rejection, surgical complications and risk of viral transmission. Larger primates are classed as endangered species. So the porcine/pig (*Suscrofa domesticus*) became animal of choice due to easy breeding, large/multiple litters, rapid maturation, sizes of the organs similar to that of humans and their cells suitability for genetic engineering. Pigs

are genetically modified by altering (or) changing their DNA and this GE (genetically edited) pigs are used for transplantation to prevent rejection reactions and zoonosis. As many animals are slaughtered for consumption, the ethical issue in life saving aspect need not to be considered. The pigs kidneys, skin, cornea, heart, heart valves, liver, axon tracts, pancreatic islets can be used for transplantation. This is bringing a step closer for transplants due to deficiency from human cadavers. Recently pig's kidneys had been transplanted into a brain-dead man where the results were excellent.

KEYWORDS: Xenotransplantation, Primates, Genetic engineering, Rejection reactions.

DISCUSSION

GGTA1 gene removal process

NOVEL VESICULAR DRUG DELIVERY SYSTEM: A BRIEF REVIEW

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ABSTRACT: Drug delivery systems have become important tools for the specific delivery of a large number of drug molecules. Since their discovery in the 1960s liposomes were recognized as models to study biological membranes and as versatile DDS of both hydrophilic and lipophilic molecules. Among several talented new drug delivery systems, liposomes characterize an advanced technology to deliver active molecules to the site of action and at present, several formulations are in clinical use. Liposome has been used as a potential carrier for several diseases from cardiovascular disease to bacterial infection and also it can reduce the toxicity of highly potent drugs and simultaneously utilized to pharmacokinetics and therapeutic efficacy. Liposomes are colloidal spheres of cholesterol non-toxic surfactant, sphingolipids, glycolipids, long-chain fatty acid and even membrane proteins and drug molecules. It differs in size, composition, and charge and drug carrier loaded with a variety of molecules such as small drug molecules, proteins, nucleotides or plasmids, etc. the focus of this chapter is on the various methods of preparation, characterization of liposomes, advantages, applications, and clinically approved liposomal drugs.

keywords: Liposomes; Characterization; Drug delivery; Stability; Drugs

1. INTRODUCTION

Artificial lipid vesicles were initially described by English hematologist Alec Bangham in 1961. (also called liposomes). It has been widely recognized and exploited as pharmaceutical delivery vehicles, chemical microreactors, and model biomembrane systems.¹ The first description of swelling phospholipid systems was published in 1965 by a group of researchers. Within a few years, a variety of encapsulated phospholipid bilayer structures made up of single bilayers were characterized, first as 'bang comes' and then as 'liposomes'². Liposomes are small spherical artificial vesicles made from cholesterol and non-toxic phospholipids. Liposomes are attractive drug delivery devices due to their size, hydrophobic and hydrophilic properties (along with biocompatibility). Liposome characteristics vary greatly depending on lipid composition, surface charge, size, and manufacturing process.³ The concept that liposomes can entrap pharmaceuticals and be employed as drug delivery devices was established by early pioneers such as Gregoriadis and Perrie.²

1. Liposomes are designed to have the following optimal qualities.
2. Drug loading and control of drug release rate
3. Overcoming the rapid clearance of liposomes
4. Intracellular delivery of drugs
5. Receptor-mediated endocytosis of ligand-targeted liposomes
6. Triggered release
7. Delivery of nucleic acids and DNA

Structural components of Liposome's¹:

The main components of liposomes are:

1. Phospholipids
2. Cholesterol

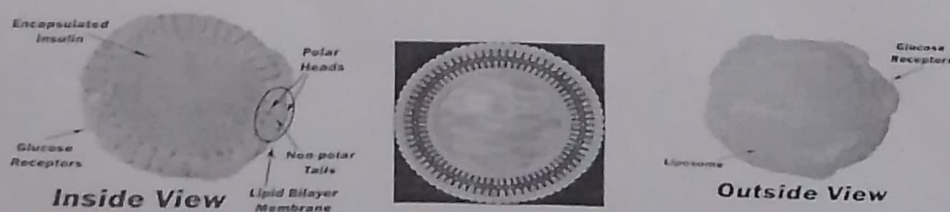
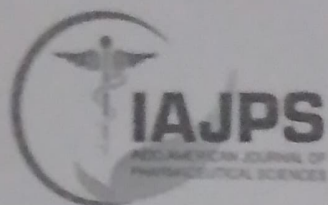


Fig.1. The liposome from the inside and out.

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Review Article

HAEMATOPOIETIC STEM CELL TRANSPLANTATION, FROM ITS EARLY STAGES TO TILL DATE

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Abstract:

Formation or development of a new cell or an entire human being requires an actively dividing cell, which we refer as Stem Cell. By discovering the potency of a stem cell in forming new cells, tissues & organs, the thought of application or use of stem cells in treating various irreversible tissue/ organ damages came out. Different stem cells are responsible in producing different tissues/ organs. With the advent that the stem cells do exist in the adults & can be extracted specifically, various stem cell transplantations took over in treating lethal diseases like cancer, diabetes, etc. The process of stem cell therapy & its applications in various fields of medical sciences is lot to be known. The current study provides a detailed glance on various aspects of one of the majorly studied/ known stem cell transplantations, Haematopoietic Stem Cell Transplantation.

Key Words: Haematopoietic stem cell transplantation; Stem Cells; Irreversible tissue/ organ damage, Autologous S.C.T.; Allogenic S.C.T.; Bone Marrow Transplantation; Peripheral Blood Stem Cell Transplantation; Immunophenotyping, Stem Cell Mobilisation.

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Management of self-inflicted oral organophosphate poisoning in adolescence - a case report

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ABSTRACT

Organophosphate (OP) poisoning is more common in developing countries such as India. Here, we report a case of self-inflicted oral OP poisoning (monocrotophos) by an adolescent male patient who presented to the emergency department of a tertiary care hospital with tachycardia and frothing without seizure episode (non-linear presentation in OP poisoning). Based on the evidence of consumption of OP compound, the management of the patient went as planned and guarded with i.v. administration of pralidoxime and atropine. Gastric lavage was done soon after the patient came to the hospital and was admitted to the Intensive care unit for 5 days and in the general ward for the next 24 h. The patient was discharged from the hospital in a hemodynamically stable state after 6 days of hospital stay by managing the cardiac, muscarinic, and nervous system events as detailed in this case report.

Key words: Acetylcholinesterase, Atropine, Gastric lavage, Organophosphate poisoning, Pralidoxime

Organophosphorus (OP) self-poisoning is an important clinical problem in developing countries. An estimate of 200,000 people per year died due to OP self-poisoning with a fatality rate of >15%. OP inhibits acetylcholinesterase (ACh) enzyme at nerve synapse and butyrylcholinesterase on the red cell membrane, of which inhibition of ACh results in the clinical presentation [1]. Inhibition of ACh results in acetylcholine accumulation and overstimulation of ACh receptors in the synapses of the autonomous nervous system, central nervous system (CNS), and neuromuscular junction. Table 1 provides the clinical presentations of ACh receptors overstimulation at different regions. OP intoxication can be through inhalation, ingestion, or dermal contact. The severity depends on the quantity of OP intoxicated and the route of intoxication. In 10–40% of poisoning cases, characteristic neurological features such as neck flexion weakness, decreased deep tendon reflexes, cranial nerve abnormalities, proximal muscle weakness, and respiratory insufficiency occur which are referred to as “Intermediate Syndrome” (IMS) [2]. OP-induced IMS was firstly reported in Sri Lanka in 1987 [3].

CASE REPORT

A 16-year-old male with a bodyweight of 60 kg presented to the emergency with an alleged history of consumption of OP

compound (Monocrotophos, one of the OP compounds, as indicated on the box presented by the relatives) of an unknown quantity at his residency 4–5 h before the hospital presentation. As soon as, the patient presented to the emergency department in view of the OP compound odor, the patient was undressed and cleaned with normal saline to mask the smell from the OP compound that fell on the dress and adsorbed on the dermal tissue while intoxication, if any.

At the time of arrival, the patient was drowsy and frothing without a history of vomiting and convulsions. Initial vitals were as follows: Blood pressure 160/100 mmHg; pulse rate 135/min; respiratory rate 24/min; SpO₂ 92% on 15 liters of O₂; and general random blood sugar 200 mg/dl. Physical examination showed bilateral ptosis, pinpoint pupils, neck dropping+, power 0/5 in all the four limbs, OP odor+, and Glasgow Coma Scale 7/15 (E₂V₂M₃).

Pathological examination showed serum cholinesterase of 407 U/mL and blood urea of 124 mg/dl. Initial arterial blood gas (ABG) showed severe mixed acidosis with pH: 7.255; pCO₂ 44.99 mmHg; pO₂ 77.91 mmHg; and HCO₃⁻: 20.16 mmol/lit. Chest X-ray showed bilateral pneumonia as shown in Fig. 1.

In view of the low saturation and aspiration, the patient was intubated in an emergency, sedated, and paralyzed. Gastric lavage was done with 5 liters of normal saline through Ryle's Tube (Nasogastric tube), given with pralidoxime (PAM) (inj. PAM) 2 g

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Formulation and evaluation of mucoadhesive tablets of furosemide by design of experiment

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Aim and objective

The present investigation concerns with the development and evaluation of mucoadhesive tablets of furosemide, which were designed to prolong the gastric residence time after oral administration.

Materials and methods

Mucoadhesive tablets of furosemide were formulated using different mucoadhesive polymers such as locust bean gum, tamarind gum, and chitosan in various ratios for treatment of hypertension by using design of experiment.

Results and discussion

The tablets were evaluated for various parameters such as compatibility studies, drug content, weight variation, hardness, thickness, friability, swelling studies, *in vitro* drug-release studies, *in vitro* mucoadhesion strength, *ex vivo* residence time test, and release rate kinetics. The *in vitro* release kinetics studies reveal that all formulations fit well with zero order, followed by Korsmeyer–Peppas, Higuchi, and the mechanism of drug release is erosion. After analysis of different evaluation parameters and drug-release kinetics, formulation code F16 was selected as a promising formulation for delivery of furosemide as a mucoadhesive gastroretentive tablet with best mucoadhesive strength and 98.76% cumulative percentage drug released at the 12th hour. Stability studies of the selected formulation were carried out to determine the effect of formulation additives on the stability of the drug and also to determine the physical stability of the formulation.

Conclusion

The stability studies were carried out at 40°C/75% RH for 90 days. There was no significant change in the physical property and weight variation, hardness, thickness, friability, *in vitro* drug-release studies, and *in vitro* mucoadhesion-strength drug content during the study period.

Keywords:

furosemide, gastroretentive tablet, mucoadhesive tablets, swelling index

Egypt Pharmaceut J 20:270–280

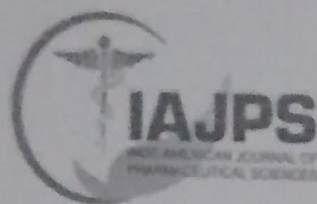
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Introduction

One of the novel approaches for drug delivery system is gastroretentive delivery system. Prolonging the gastric retention of a delivery system is desirable for achieving therapeutic benefit of drugs that are absorbed from the proximal part of the gastrointestinal tract (GIT) or that are less soluble in GIT or are degraded by the alkaline [1]. Mucoadhesive controlled-release dosage formulations have gained considerable attention due to their ability to adhere to the mucous layer and release the drug in a sustained manner. Mucoadhesive delivery systems offer several advantages over other oral controlled-release systems by virtue of prolongation of residence time of drug in GIT, and targeting and localization of the dosage form at a specific site [2]. Furosemide, an antihypertensive agent, has been widely used for the treatment of hypertension, heart failure, and edema. Furosemide is acid-stable and completely absorbed in gastric pH. Furosemide's biological half-life is 2–3 h and bioavailability in the

stomach is 60–64%. The pKa value is 3.5. Hence, as the pH increases, it becomes unstable and undergoes a degradation reaction, thus reducing its bioavailability. Water-soluble drugs are considered difficult to deliver in the form of sustained or controlled-release preparation due to their susceptibility to 'dose dumping phenomenon.' Attempts have been made to regulate their release process by use of mucoadhesive polymers in order to achieve a once-a-day dose treatment [3]. The current study aims at developing and evaluating oral mucoadhesive drug delivery system of furosemide, as it may prove to be more productive than the conventional controlled-release systems by virtue of prolongation of drug-residence time in the GIT. Furosemide

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Review Article

A DETAILED REVIEW ON NON-INVASIVE CARDIAC THERAPY – EECF: A NEW INSIGHT OF TREATMENT FOR CARDIAC PROBLEMS

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Abstract:

Coronary problems like Ischemic heart diseases, coronary artery disease and stroke etc. caused due to stenosis are being the cause of most deaths over decades worldwide. Several advancements to clear the coronary stenosis like CABG and PTCA helped a lot in controlling the deaths. Holding the fact that these advancements being invasive several patients who need to be operated are taking back putting their lives at risk, to overcome this drawback, scientific field remained developing more novel advancements. One of which is ENHANCED EXTERNAL COUNTER PULSATION, EECF, a mechanical procedure to treat coronary problems overcoming the above said limitation. As this is a modern, non-invasive cardiac therapeutic option, this article reviews the procedure in terms of how it is done, what is the mechanism of action, what are the benefits and limitations of the therapy and to which patients it is recommended.

Key Words: CAD; Angina; class-2 devices; class-3 devices; Vacuum effect; Systolic Ventricular Output; Endothelial Dysfunctioning.

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ACADEMIC YEAR

2020-2019



A TALE OF TWO PANDEMICS: SUNSHINE VITAMIN (D) DEFICIENCY AND CURRENT PANDEMIC: COVID 19 RELATIONSHIP

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ABSTRACT

Covid-19 (Corona virus disease) is an infectious disease caused by corona virus (SARS CoV 2) of coronaviridae family. It's first outbreak was in Wuhan, China in 2019 and has spread all over the world with 1,56,73,511 positive cases and 6,36,848 deaths till today according to covid-19 tracker https://www.worldometers.info/coronavirus/?utm_campaign=homeAdvegas1? It was considered as global pandemic by WHO on March 11, 2020. Vitamin D also called the sunshine vitamin is synthesized by skin when exposed to sunlight by the action of UV B radiation. Its deficiency known as hypovitaminosis D is also a

prevailing factor worldwide with 1 billion people effected in the world and 80% of adults, 96% elderly effected in India according to 2020 statistics. Though there is no proper evidence of vitamin D as a treatment option for this covid-19, more fatalities showed low vitamin D levels. So taking vitamin D rich foods like salmon, tuna fish, milk, liver, butter, mushrooms, eggs, cereals etc., vitamin D supplements and exposing to sunlight may reduce the number of vitamin D deficiency cases and also helps to fight against the infection as it is a hormone, nutrient, vitamin and also a immune and gene modulator.

KEYWORDS: Covid-19, vitamin D, sunshine vitamin, hypovitaminosis D, fatalities, hormone, nutrient, vitamin, immune modulator, gene modulator.

INTRODUCTION TO COVID-19, VITAMIN D AND IT'S DEFICIENCY

Corona virus disease (Covid-19) is an infectious disease caused by an ss-RNA virus namely corona virus (SARS- CoV 2), a genus of coronaviridae family with the first confirmed case



Bicornuate Uterus and Hughes Syndrome with Recurrent Abortions: A Case Report

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ABSTRACT

The incidence of the uterine malformations is estimated to be 3-5 % in the general population. Abnormal fusion of mesonephric duct (Mullerian duct) during embryonic life results in a variety of uterine malformations like septate uterus, unicornuate and bicornuate uterus. Bicornuate uterus is a congenital condition with a heart shaped uterus with a partial septum dividing in into right and left cornua. Hughes syndrome/Anti Phospholipid antibody Syndrome/ sticky blood syndrome is a rare autoimmune condition associated with thromboembolic events in arteries and veins and pregnancy complications like miscarriages, still births, preterm deliveries, Intra Uterine Growth Restriction (IUGR), pre-eclampsia etc. Antithrombotic therapy is mainstay treatment for this syndrome. We reported a case of 27 years old female patient of GSA4 with 6 weeks 3 days of GA and was admitted to hospital with chief complaints of hematemesis for 5 days; she is K/C/O bicornuate uterus with APLA positive and for preceding 4 years she was on ENOXAPARIN 60 µgm. She is eagerly waiting to take home baby and strategies to reduce the risk are cervical cerclage, Strassman metroplasty to correct the malformed uterus. Pregnancies in such conditions are usually considered high risk and require extra monitoring because of their association with poor reproduction potential.

Keywords: Bicornuate uterus, Hughes syndrome, Pregnancy, Uterine malformations.

INTRODUCTION

Incomplete/Abnormal fusion of mesonephric duct (Mullerian duct) during embryonic life results in variety of congenital uterine malformations like uterus didelphys, uterus bicornes bicollis, uterus unicollis, uterus subseptae, uterus arcuate, uterus unicornis,

septate uterus, unicornuate and bicornuate uterus (The American fertility society, 1998; Reddy, 2017). The incidence of uterine malformations in general population is estimated to be 3-5 % (Borgohain & Srivastava, 2018).

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**PHARMACOLOGICAL IMPORTANCE OF *CLITORIA TERNATEA* – A
REVIEW**

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ABSTRACT

Medicinal and aromatic plants have been used over the ages for its potency and minimal side effects. Due to this, the exploration is at its highest peak. Seeing this phenomenon the climbing plant *Clitoria ternatea* (CT) belonging to the Fabaceae family and commonly known as 'Butterfly pea' and Shankpushpi. Traditional name is Aparajitha pushpam, has been taken up which is used in Traditional Ayurvedic Medicine, because of its varied uses over centuries as a memory enhancer, nootropic, antistress, anxiolytic, antidepressant, anticonvulsant, tranquilizing and sedative agent. A wide range of secondary metabolites including triterpenoids, flavonol glycosides, anthocyanins and steroids has been isolated from *Clitoria ternatea* Linn. Its extracts possess a wide range of pharmacological activities including antimicrobial, antipyretic, anti-inflammatory, analgesic,

diuretic, local anaesthetic, antidiabetic, insecticidal, blood platelet aggregation-inhibiting and for use as a vascular smooth muscle relaxing properties. This plant has a long use in traditional Ayurvedic medicine for several diseases and the scientific studies has reconfirmed those with modern relevance. The plant contains many active constituents like alkaloids, glucosides, flavonoids, saponins, tannins, carbohydrates etc. This review is an effort to explore the phytochemical constituents and pharmacological studies of CT, which have been in clinical use in the Ayurvedic system of medicine along with a critical appraisal of its future

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Research Article

**SIMULTANEOUS ESTIMATION OF ANTI NEOPLASTIC
DRUGS BY RP-HPLC METHOD**Ravi Pratap Pulla*¹, Anil Mohan Jonnakuti², Shaheen Sultana³, Mallesh Eslavath⁴ &
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A new method was established for simultaneous estimation of Antineoplastic drugs by RP-HPLC method. The chromatographic conditions was successfully developed for the separation of Cytarabine (CYT) and Daunorubicin (DAU) by using Phenomenex Luna C₁₈ column (4.6×150mm) 5 μ , flow rate was 1.0 mL/min, mobile phase ratio was Methanol: Tri ethyl amine buffer (35.65% v/v), detection wavelength was 261 nm. The instrument used was Waters HPLC Auto Sampler, Separation module 2695, photo diode array detector 996, Empower-software version-2. The system suitability parameters for CYT and DAU such as theoretical plates and tailing factor were found to be 7698, 1.09 and 6452, 1.05. The retention times was found to be 2.247 and 5.452 minutes. The % purity of CYT and DAU was found to be 98.48% & 98.69%. The analytical method was validated according to ICH guidelines (ICH, Q2 (R1)). The linearity study of CYT and DAU was found in concentration range between 60 μ g - 140 μ g/mL and 100 μ g - 500 μ g/mL and correlation coefficient (r^2) was found to be 0.999 and 0.999, % recovery was found to be 100.36% and 100.15 %, %RSD for repeatability was 0.212 and 0.064, % RSD for intermediate precision was 0.611 and 0.296. The precision study was precise, robust and repeatability. LOD value for CYT was 2.63 μ g/mL & DAU was 3.84 μ g/mL and LOQ value was found to be 7.92 μ g/mL (CYT) & 11.54 μ g/mL (DAU). Hence the suggested RP-HPLC method can be used for routine analysis of CYT and DAU in API and its pharmaceutical dosage form.

KEYWORDS: Cytarabine and Daunorubicin, RP-HPLC, RSD, Robustness & intermediate precision

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EVALUATION OF EFFICACY AND SAFETY OF PIRFENIDONE IN PATIENTS WITH IDIOPATHIC PULMONARY FIBROSIS

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