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Education & Beyond

LIST OF TEXTBOOKS

S. No	Name of the teacher	Title of the book/chapters published	National / International	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1	Dr.T.K.V.Kesava Rao, B.Sravana Sree	A Textbook for PHARMACOLOGY	National	2019	978819660 0167	PYDAH COLLEGE OF PHARMACY	Pragathi Publications
2	Dr. Ch Prasad, A.Venkateswara rao	Pharmaceutical Chemistry	National	2021	978819660 0105	PYDAH COLLEGE OF PHARMACY	SSR IHER Publications
3	Dr S V U M Prasad , M Vineela , K N Jyothirmayi	Modern Pharmaceutics	National	2022	978819660 0174	PYDAH COLLEGE OF PHARMACY	Pragathi Publications




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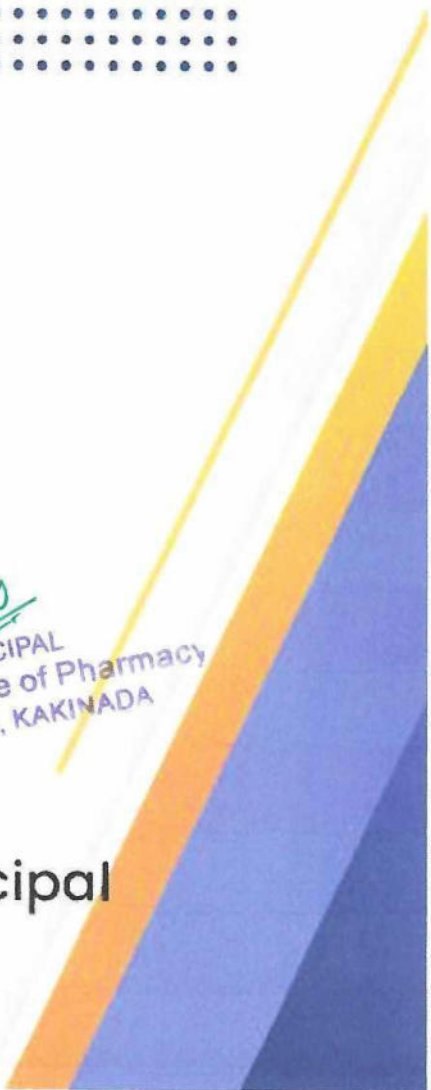


**A TEXTBOOK FOR
PHARMACOLOGY**




PRINCIPAL
Pydah College of Pharmacy
PATAVALA, KAKINADA

Dr T K V Kesava Rao, Professor & Principal
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A Textbook for PHARMACOLOGY

Authors

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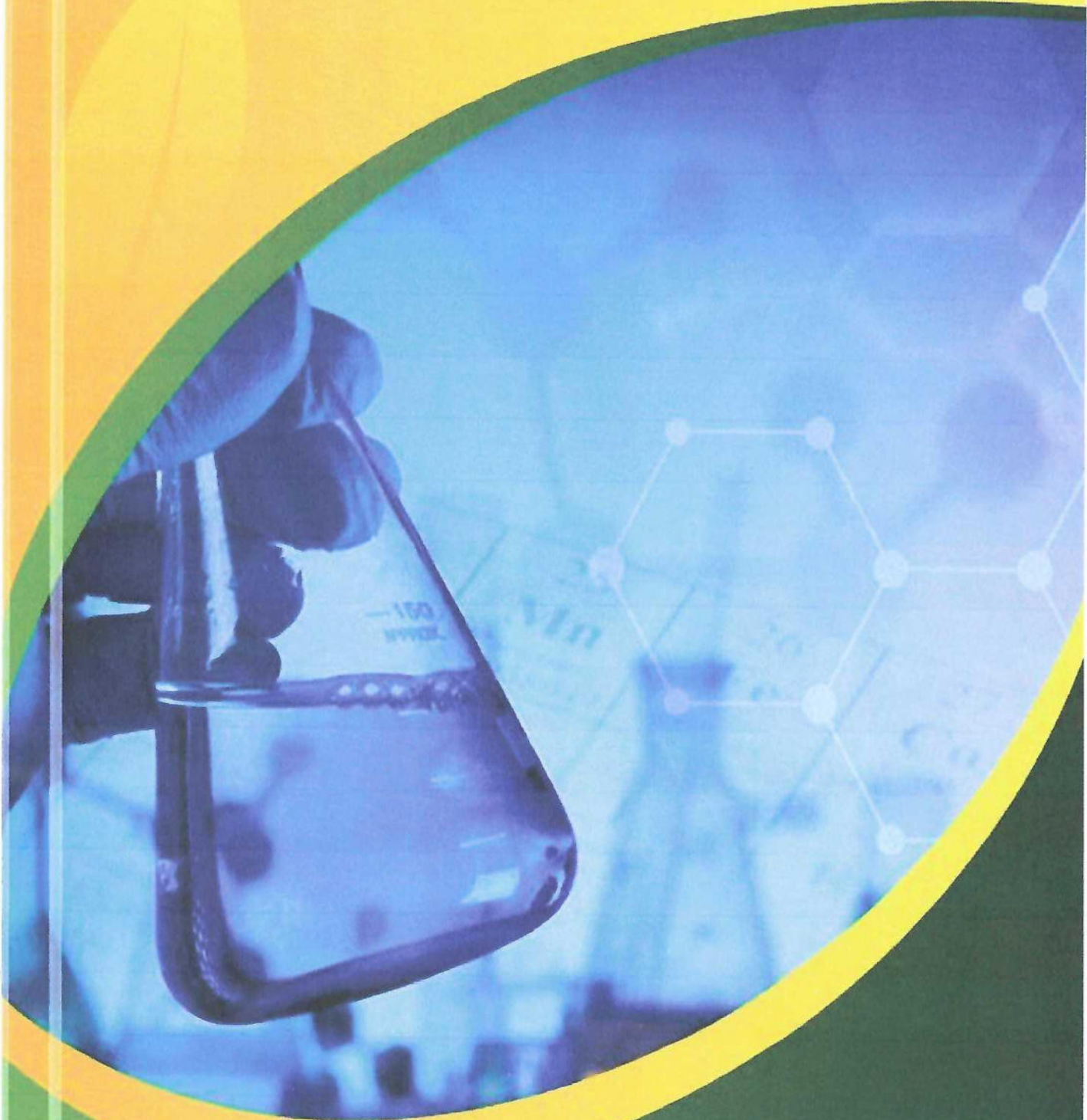


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Pharmaceutical Chemistry

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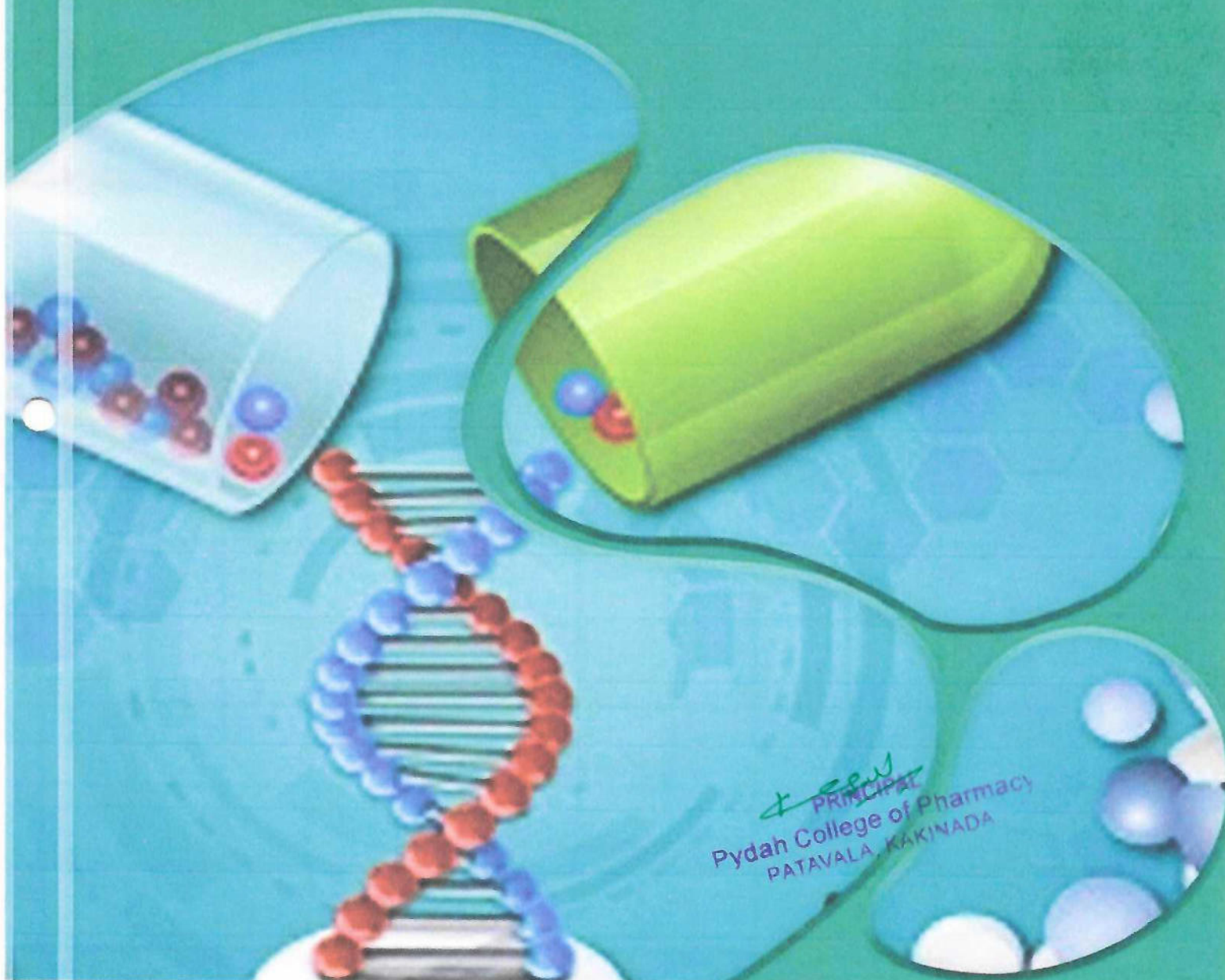

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MODERN PHARMACEUTICS

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M Vineela, Assistant Professor
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Modern Pharmaceutics

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2. Principles of Drug Absorption
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Education & Beyond

List of Publications

S.No	Title of paper	Name of the authors	Department of the teacher	Name of journal	Year of publication
1.	Evaluation of Liquid Chromatography for Routine Quantification of Meropenem, Ceftazidime, and Piperacillin in Serum and Cerebrospinal Fluid	K N Jyothirmayi, Dr T K V Kesava Rao	Assistant Professor, Professor & Principal	History of medicine sciences	Aug-22
2.	Staphylococcus aureus and Enterobacteriaceae Biofilm Formation and Antibiotic Resistance in Clinical Samples Obtained from Patients With Urinary Tract Infections	M. Vineela , Dr. Cheepurupalli Prasad	Assistant Professor, Professor	History of medicine sciences	Sep-22
3.	Tithonia diversifolia and Senna didymobotrya Extracts Show Effectiveness Against Fleas Without Harming Mammals	A Venkateswara rao, M Vineela	Associate Professor, Assistant Professor	International Journal of modern electronics and communication engineering	Sep-22
4.	Analysis of the Efficacy of Topical Aqueous Creams Containing Azadirachta Indica Leaf Extract for Healing Wounds	Dr T K V Kesava Rao, M Vineela	Professor & Principal, Assistant Professor	Journal Of Current Science	Sep-22
5.	Development and Validation of a Gliadin Induced Intestinal Enteropathy Rat Model of Non-Celiac Gluten Sensitivity	M Vineela, K N Jyothirmayi	Assistant Professor, Assistant Professor	International journal of basic and applied research	Sep-22
6.	Biopolymers for drug delivery: properties, processing and applications	Dr Cheepurupalli Prasad	Professor	Journal Of Human University (Natural Sciences)	Oct-22

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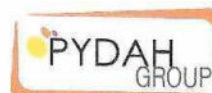
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7.	Comparative Studies on Safety of Glimpiride and Glipizide on Renal Microarchitecture and Oxidative Stress Markers of Pregnant Streptozotocin-Induced Diabetic Wistar Rats	Dr Cheepurupalli Prasad, B Sravana Sree	Professor , Assistant Professor	International Journal Of Applied Science Engineering and Management	Dec-21
8.	Evaluate Effectiveness of Hubbard Purification Rundown Process for Victims of Dioxin/Agent Orange and Related Strengths, Challenge	K N Jyothirmayi, Dr Cheepurupalli Prasad	Assistant Professor , Professor	Journal Of Current Science	Dec-21
9.	Traditional Applications, Phytochemistry, and Pharmacological Effects of Cassia fistula	Dr Cheepurupalli Prasad, A Venkateswara rao	Professor, Associate Professor	Journal Of Current Science & Humanities	Dec-21
10.	The Anticancer Activity of Abemaciclib Is Modulated by Sodium Butyrate in MDA-MB-231 Human Breast Cancer Cells.	B Sravana Sree, K N Jyothirmayi	Assistant Professor, Assistant Professor	History of medicine sciences	Nov-20
11.	Antimicrobial Use, Adverse Effects, and Cost of Drug Therapy in Pediatric Respiratory Tract Infections: A Systematic Review and Meta-Analysis	Dr T K V Kesava Rao, A Venkateswara rao	Professor, Associate Professor	International Journal of modern electronics and communication engineering	Jul-18

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12.	The Relationship between High Absolute Lymphocyte Counts and Favorable Prognosis in Eribulin Therapy is seen in First-Line Chemotherapy for Metastatic Breast Cancer: Combined Analysis of Two Phase 2 Studies	A Venkateswara rao, B Sravana Sree	Associate Professor, Assistant Professor	Journal Of Current Science & Humanities	Nov-18
13.	Development and Assessment of the Reliability and Validity of a Psychological Stress Scale for Catheterized Home Healthcare Patients	B Sravana Sree, Dr T K V Kesava Rao	Assistant Professor, Professor	International Journal Of Applied Science Engineering and Management	Nov-18

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Evaluation of Liquid Chromatography for Routine Quantification of Meropenem, Ceftazidime, and Piperacillin in Serum and Cerebrospinal Fluid

K N Jyothirmayi¹, Dr T K V Kesava Rao²

Abstract

Critically ill patients often benefit from therapeutic drug monitoring (TDM) of β -lactam antibiotics to reduce the risk of treatment failure. In this research, we created a rapid and easy-to-use high-performance liquid chromatography (HPLC) test for the detection of meropenem, ceftazidime, and piperacillin in human serum and for the quantification of meropenem in CSF.

Methods: An Atlantis® T3 5.0 m stationary phase was employed in this procedure. Mobile phase A was composed of 99.4 percent (m/m) water and 0.6 percent (m/m) formic acid (pH 2.30). Acetonitrile (93.6% m/m), water (6% m/m), and formic acid (0.4%) were the components of mobile phase B. Meropenem, ceftazidime, and piperacillin were all determined using a gradient elution technique. UV absorbance detection was performed at 309nm, 258nm, 235nm, and 260nm. An internal standard was included in the sample-preparation process, and acetonitrile/methanol was used to precipitate the proteins.

Results The method's linearity, specificity, accuracy, and precision were all studied. Antibiotic compounds and an internal standard were tested for their stability. Single run duration was 23 minutes, while meropenem retention time was 7.222 minutes. Quantification of meropenem was performed from the LOD (0.1mg/l in serum and CSF) to the ULOQ (100mg/l in serum and 25mg/l in CSF). High interindividual variability in serum and CSF meropenem levels was seen in routine analysis, with a mean CSF/serum ratio of 0.129 0.03. Meropenem, ceftazidime, and piperacillin all passed an external validation using the proposed technique with a score of 0.092.

The results of this experiment show that it is possible to examine relationships between meropenem dose, serum concentration, and CSF concentration. Serum from humans may also be tested for ceftazidime and piperacillin. To learn more about how deeply meropenem enters cerebrospinal fluid, researchers may conduct larger-scale experiments. The described methodology is useful for measuring the chemicals in serum and CSF and may be suggested for use.

Keywords: Meropenem, Ceftazidime, Piperacillin, Therapeutic drug monitoring, HPLC, validation, human serum, cerebrospinal fluid


Introduction

pyrrolidiny]thio]-6-[(1R)-1-hydroxyethyl]the 4-methyl-7-oxo-1-azabicyclo[3.2.0] (Figure 1[1]) hept-2-ene-2-carboxylic acid has significant antibacterial action against both gram-positive and gram-negative bacteria, making it an ideal carbapenem derivative. It is a β -lactam antibiotic, therefore it blocks cell wall formation by penetrating the bacterial cell wall [2]. It is utilized as a last-resort antibiotic in critical care units (ICUs) because of its high stability

against β -lactamases [3, 4]. When external ventricular drains (EVD) are utilized in the treatment of acute subarachnoid hemorrhage, intraventricular bleedings, or other acute cerebral pathologies, ventriculitis is a common consequence [5].

Assistant Professor¹, Professor & Principal²

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Staphylococcus aureus and Enterobacteriaceae Biofilm Formation and Antibiotic Resistance in Clinical Samples Obtained from Patients With Urinary Tract Infections

M Vineela¹, Dr Cheepurupalli Prasad²

Abstract

Community and hospital-acquired infections are caused by Gram-negative and Gram-positive bacteria, respectively. Antimicrobial resistance is one of the world's leading health concerns because of its rapid development, appearance, and dissemination among microorganisms. Bacteria employ biofilm development as a method of resistance. This research set out to determine whether or not *Staphylococcus aureus* and Enterobacteriaceae isolates exhibited antibiotic resistance patterns and whether or not they were capable of forming biofilms.

Methods: Patients with urinary tract and surgical site infections at Hôpital Biamba Marie Mutombo and Saint Joseph Hospital provided a total of 18 *Staphylococcus aureus* and 60 Enterobacteriaceae clinical isolates. Disk-diffusion testing was used to identify the antibiotic resistance pattern of the isolates. The capacity of bacterial strains for producing and forming a biofilm was evaluated using the microtiter plate technique.

Antibiotic and biofilm producer resistance was found to be very common among clinical isolates of *S. aureus* and Enterobacteriaceae. The ampicillin-sulbactam, piperacillin-tazobactam, vancomycin, amoxicillin-clavulanic acid, levofloxacin, and aztreonam susceptibilities of *S. aureus* strains were all at 100%. Antibiotics including amoxicillin-clavulanic acid, erythromycin, and tetracycline were completely ineffective against strains of *Escherichia coli*, *Enterobacter sp.*, *Citrobacter sp.*, and *Serratia sp.* The capacity to create a biofilm was not linked to resistance to antibiotics.

The current study's findings support the establishment of MDR-Os and recommend establishing a program to track the development of antibiotic resistance.

Keywords: Antibiotic resistance, *Staphylococcus aureus*, Enterobacteriaceae, Biofilm

Introduction

Since fewer or, in some cases, no effective antimicrobial drugs are available to treat illnesses caused by pathogenic bacteria, the emergence of resistance to numerous antimicrobial agents in these bacteria has become a huge public health problem. 1). The establishment and growth of antibiotic resistance is a problem for both Gram-positive and Gram-negative bacteria [1]. Multidrug-resistant microorganisms have emerged as a global threat to effective illness treatment [2]. Increased mortality has been linked to infections caused by multidrug-resistant organisms (MDROs). antibiotics with varying degrees of resistance in terms of morbidity, duration of hospital stay,

healthcare costs, and cost-effectiveness [3, 4]. Methicillin-resistant *Staphylococcus aureus* (MRSA), resistant gram-negative bacilli (RGNB), and vancomycin-resistant enterococci (VRE) are all examples of multidrug-resistant organisms [1]. Resistance to antibiotics in bacteria results from a number of different phenomena, including changes in the drug's target, the bacteria's inability to absorb the antibiotic, the molecule's destruction, the presence of an efflux system that can remove the antibiotic from the bacteria's cytoplasm, and genetically associated changes (mutational events, genetic transfer of resistance genes via plasmids, and mutations of target genes) [5].

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Tithonia diversifolia and Senna didymobotrya Extracts Show Effectiveness Against Fleas Without Harming Mammals

A Venkateswara rao¹, M Vineela²

Abstract

Traditional uses for the bio-pesticides *Tithonia diversifolia* and *Senna didymobotrya* are described here. There is a lack of evidence supporting their utility in flea control, and there is also concern about the safety of their aqueous extract.

Methods Acute toxicity in Wister rats and cutaneous and ocular irritation in Newzealand albino rabbit were evaluated using a technique previously published, and the antifleas activity of *Tithonia diversifolia* and *Senna didymobotrya* were compared with *Chrysanthemum cinerariifolium*. We started by making crude aqueous extracts of the flowers and leaves of *T. diversifolia*, *S. didymobotrya*, and *C. cinerariifolium*, and then we diluted those extracts and the placebos in a series of dilutions. Plant extracts were applied to strips of Whatman's filter paper no. 1 and tested for their antifleas properties using fleas collected from stray dogs. After 24 and 48 hours, we counted the number of alive fleas in the polypylene tubes to assess the level of activity.

The most effective treatment against fleas was found in *T. diversifolia* (93%), followed by *C. cinerariifolium* (90%) and *S. didymobotrya* (66.3%). The LD50 for all three plant extracts evaluated was more than 2000 mg/kg, and there were no symptoms of ocular or skin toxicity.

In conclusion, further research is needed to determine whether the flowers of *T. diversifolia* can be utilized to manage jigger flea populations.

Key words: *T diversifolia* flowers; Fleas control; Jiggers

1. Introduction

Fleas are a kind of ectoparasite that may jump from a human host to a domestic animal and then back to the human again. Dogs in colder climates are not immune to flea infestation since the fleas' capacity to breed exclusively in homes makes them present all year long. Flea bites may result in pruritus and flea allergic dermatitis (FAD), but they can have other, less serious, pathogenic consequences. Controlling the flea population is essential for preventing FAD; this requires the consistent use of chemical agents, often in the form of topical preparations but in rare cases orally [1].

Fleas are not only annoying, but they may also spread

illness. There are three human diseases that are linked to fleas. Plagues include bubonic, pneumonic, and septicemic. Murine typhus fever is caused by the bacterium *rickettsia typhi*, and it is spread mostly by rat and cat fleas. Humans get the disease when their bodies come into contact with infected fleas' dried feces and crushed corpses. The female sand fleas, chigoes, or jigger fleas may cause irritation by burrowing into the skin. Jigger infestations may range from just a few to hundreds of parasitic worms per host. The whole process, from egg to adult, may take as little as 18 days under ideal circumstances [2].

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Analysis of the Efficacy of Topical Aqueous Creams Containing Azadirachta Indica Leaf Extract for Healing Wounds

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Abstract

Background: Wound is one of the health indispositions with adverse socio-economic repercussions on the sufferer and those around them. Crude aqueous extract of *Azadirachta indica* leaves (AEAIL) preserves demonstrated potentials for wound healing. Developing the AEAIL into a topical aqueous cream might boost its effectiveness in wound therapy. **purpose:** The purpose of this research was to produce aqueous topical creams containing different concentrations of AEAIL as bioactive components, assess their stability and wound healing activity in male Wistar rats using hydroxyproline (HXP) as a biochemical marker.

Materials and methods: Creams containing 1.0, 1.5, 2.0 and 3.0 % w/w of AEAIL were made, evaluating their stability up to 14 days and measuring their wound healing capabilities in male Wistar rats using DMSO, cholesterol and distilled water as controls.


Results: All the batches of creams were stable in colour, pH, viscosity, etc. and demonstrated wound healing effects with the animals treated with the cream containing 1.5 % w/w of AEAIL having the greatest tissue HXP level ($p > 0.05$). The tissue HXP levels in the animals treated with DMSO, cholesterol and distilled water were lower than those of the test creams ($p < 0.05$). There was substantial marginal variations in percentage difference of their HXP level compared to those of the test creams ($p < 0.05$).

Conclusion: The aqueous extract of *Azadirachta indica* leaves manufactured as aqueous cream was stable and preserved its wound healing properties. This novel solution might potentially be employed in the treatment of bodily injuries.

Key words: Wound healing; Aqueous cream; *Azadirachta indica* leaves; Bioactive ingredient; Hydroxyproline; Wistar rats

Introduction

Wounds are damages to the outer body covering which disrupt the other soft flesh [1]. It causes social and financial impairment to the affected individual and others around them [2]. They may be initiated by physical, chemical, thermal, microbial or immunological abuse to the tissue [3,4] and could ordinarily be defined considering their depth, healing time, the progression of restoration, underlying pathology, the associated risk of mortality and the effect on the quality of life of the victim [5,6]. A ripped, sliced or punctured outer bodily cover is characterized as an open wound. If a blunt force discomfort brings about a bruise, the consequence is characterized as a closed wound. Those wounds classified as a burn are triggered by fire, heat, radiation, chemicals, electricity, or sunlight [3,4]. Restoring an injury to the body is a prolonged and complicated progression of tissue healing and transformation in reaction to an injury involving a complex series of cellular and biochemical reactions to pave way for the restoration of the injured part of a body to the re-establishment of the fundamental and serviceable constitution of the tissues as it was. It comprises continuous cell-cell interface and cell-matrix interactions that let the method to continue in varied related segments and procedures involving inflammation, wound contraction, re-epithelialization, tissue re-modelling and formation of granulation tissue with angiogenesis. The levels of restoration of an injured body usually advance in an anticipated time frame until healing is accomplished, of which if it fails, the expected healing may not be achieved, and may lead to whichever, a long-lasting wound like a venous sore or pathological damaging such as a keloid scar [7]. The initial phase of wound healing regulates bleeding [8,9]. The constriction of the vascular system, platelet migration and production of coagulated fibrin restores haemostasis immediately after vascular injury and provides space for an extracellular network for cell migration. With the aid of this, mediators of wound healing recruit inflammatory cells to the location of wound enabling the following stage of inflammation [10]. This second phase interacts with the previous phase involving haemostasis and clotting and is beginning in a few hours following the injury. This phase is essentially separate from the increase of leukocytes and macrophages [9,11].


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Development and Validation of a Gliadin Induced Intestinal Enteropathy Rat Model of Non-Celiac Gluten Sensitivity

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Abstract

Background: Non-celiac gluten sensitivity (NCGS) is a phenomenon that is associated to the absorption of gluten-containing food. In the present work we created and validated an NCGS rat model.

Materials and Methods: Wistar rats were separated into 2 groups: control group (getting 0.02 M acetic acid solution) and gliadin group (receiving 1.5 mg/g of body weight of gliadin in acetic acid solution). Rats received its treatment by intra-gastric gavage on postnatal day 2, then three times a week for 6 weeks. Animals were examined for weight changes, intestinal permeability, histology, inflammatory cytokines, and anti-gliadin antibodies (AGA). Intestinal permeability was tested 24 h before to sacrifice by providing a lactulose/mannitol solution (500/250 mg/kg respectively), and collecting urine for 24 h. For histological study, small intestines were taken, fixed, and stained with hematoxylin and eosin. Intestinal gene expression of cytochrome P450 (CYP 3a62, CYP 3a9/18) and uptake transporters, breast cancer resistance protein (ABCG2), and P-glycoprotein (MDR1a) were examined by qRT-PCR. Blood was obtained for analysis of total anti-gliadin antibodies (AGA), anti-gliadin immunoglobulins A and M (AGA-IgA and AGA-IgM), and pro-inflammatory cytokines.

Results: As compared to control, the gliadin group had lower body weight, increased intestinal permeability ($p < 0.05$); mild villous atrophy, increased intraepithelial lymphocytes, mild inflammation; increases in total AGA and AGA-IgM, increased gene expression of pro-inflammatory cytokines, IL-6, TNF- α , and IFN- γ , by 94%, 33%, and 46% ($p < 0.05$) and altered gene expressions of CYP450 and transporters.

Conclusions: This model closely replicates the clinical and inflammatory aspects of NCGS, and might be utilized to evaluate potential pharmacological therapies for this illness.

Keywords: Celiac disease, non-Celiac gluten sensitivity, enteropathy, gluten, gliadin, animal model

Introduction

Non-celiac gluten sensitivity (NCGS) is a disorder that develops from the intake of gluten-containing foods or beverages and may affect up to 6% of the US population. NCGS patients suffer from both intestinal (abdominal pain, diarrhea, bloating and flatulence) and systemic symptoms including joint/muscle pain, headaches, lethargy, and foggy thinking [1, 2]. In addition, loss of body mass, nausea, inflammation, among other health conditions may co- occur [5, 6]. These symptoms ease with dietary removal of gluten, and then recur upon its reinstatement. Additionally, NCGS patients have positive immunological responses to gluten and its peptides, such as elevations in immunoglobulin A (IgA) and/or G (IgG), and positive anti-gliadin (AGA) or anti-deamidated gliadin peptide (anti-DGP) antibodies [3, 4].

As an approach to explore the pathophysiology and intolerance to gluten, many experimental models of inquiry have been presented [7-11]. One of the methodologies utilized for the investigation of gluten intolerance and structural alterations in the gastrointestinal tract has been the intragastric injection of gliadin in rats [9]. However, the findings are not always good or alterations in the jejunal mucosa are not obvious [9, 12]. In this situation, it is recognized that there is a need to construct and verify a model of intestinal enteropathy to match the alterations found clinically in gluten-sensitive non-celiac individuals. Researchs in this subject will be crucial and allow better understanding of illnesses connected with gluten hypersensitivity and its severe health consequences. Moreover, gastrointestinal abnormalities common in this disease may interfere with medication pharmacokinetics; this is an issue that has to be addressed [13, 14]. Pharmacokinetics investigations in NCGS and gluten-sensitive individuals may potentially enable dosage modifications for limited therapeutic window medicines. Therefore, in the context of gluten hypersensitive intestinal

Open Access Article

BIOPOLYMERS FOR DRUG DELIVERY: PROPERTIES, PROCESSING, AND APPLICATIONS

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Abstract

Biopolymers provide a plethora of applications in the pharmaceutical and medical applications. A material that can be used for biomedical applications like wound healing, drug delivery and tissue engineering should possess certain properties like biocompatibility, biodegradation to non-toxic products, low antigenicity, high bio-activity, processability to complicated shapes with appropriate porosity, ability to support cell growth and proliferation and appropriate mechanical properties, as well as maintaining mechanical strength. This paper reviews biodegradable biopolymers focusing on their potential in biomedical applications. Biopolymers most commonly used and most abundantly available have been described with focus on the properties relevant to biomedical importance.


Introduction

Biopolymer development provides a platform that fits into the paradigm of achieving an eco-friendly environment while reducing dependence on the limited fossil fuel components for the fabrication of everyday products in a world that canopies numerous opportunities to advance towards a green sustainable life. As a result of current technological advancements, biopolymer end products are now being used for more demanding applications and may soon perform on par with synthetic polymers derived from petroleum. This paper's goal is to shed some light on several biopolymer-related topics, including their classes, characteristics, composites, and uses. Numerous fascinating polymer composition chemistries can be supported depending on the sort of class based on different categories. By changing the chemical configuration and synthesis process, as well as concentrating on the biopolymer's functional purpose, essential features can be added to the resulting material. Modern biopolymer composites use the benefits of two different biopolymers to create a component with

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Comparative Studies on Safety of Glimepiride and Glipizide on Renal Microarchitecture and Oxidative Stress Markers of Pregnant Streptozotocin-Induced Diabetic Wistar Rats

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Abstract

Introduction: Gestational diabetes mellitus (GDM) and Type 2 diabetes mellitus share the characteristics of a reduced insulin production and an impaired responsiveness to insulin. Oral hypoglycemics are preferable to insulin injections during pregnancy because they are safer and patients are more likely to take their medication as prescribed. The overarching purpose of this study was to compare and contrast the effects of glimepiride and glipizide on the kidney and several maternal parameters of pregnant streptozotocin (STZ)-induced diabetic rats. Thirty-five (35) female Sprague-Dawley rats weighing 120-160 g were split into five (5) groups to test the effects of different treatments. Streptozotocin (STZ) was injected intraperitoneally into groups 2-5 to cause diabetes mellitus. Group 1 received distilled water as a control, Group 2 received glimepiride, Group 3 received insulin, Group 4 received glipizide, and Group 5 received citrate buffer for their diabetes.

Oxidative stress indicators, blood glucose level, body weight, hematological parameters, and lipid profile all improved significantly (p<0.05) in the glimepiride and glipizide-treated groups compared to the diabetic and insulin-treated groups. Changes were much better than chance (p<0.05). Treatment with glimepiride improved oxidative stress markers, body weight, and kidney histology relative to both the diabetic and glipizide groups.

This study concludes that when compared to insulin, the two oral hypoglycemic medications are equally efficient in regulating glucose intolerance during pregnancy, renal oxidative stress, and cytoarchitectonic features of the kidney. Therefore, glimepiride may present as an attractive alternative medicine of choice for optimal management of glucose intolerance during pregnancy due to its ameliorative and restorative effects on renal oxidative stress and kidney micro-architectonic features.

Keywords: Kidney; Gestational Diabetes Mellitus; Oral Hypoglycaemic agents; Pancreas; Glimepiride; Glipizide

1. Introduction

Both GDM and T2DM have traditionally been associated with increased risk for negative maternal and fetal outcomes [1]. Reduced glucose tolerance is associated with unfavorable outcomes, as shown in previous research [2]. However, during the last thirty years, the definition and nature of gestational glucose intolerance have been hotly debated in both clinical practice and scientific inquiry. Due to the prevalence of diagnostic methods and glucose cut-offs developed for gestational glucose intolerance, accurate diagnosis of pregnancy-induced diabetes mellitus has become more

difficult. In 2010, WHO reevaluated its guidelines for defining, diagnosing, and classifying gestational glucose intolerance [3, 4]. Diabetes mellitus is a group of metabolic illnesses characterized by prolonged high blood sugar levels and the inability to properly utilize the macronutrients fat, protein, and carbohydrates due to abnormalities in insulin production or activity. Indicators in the diagnosis of diabetes mellitus include extreme weight loss, excessive thirst and urination, and an abnormally high blood glucose level [3].

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Evaluate Effectiveness of Hubbard Purification Rundown Process for Victims of Dioxin/Agent Orange and Related Strengths, Challenges

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Abstract

Objective: The purpose of this research was to analyze the efficiency of Hubbard purification rundown (PR) method for victims of agent orange in the centers of detoxification.

methodologies: The research was planned as a cross-sectional study integrating quantitative and qualitative methodologies and conducted out on 30 dioxin patients, 21 health professionals, and 299 medical records in Hanoi and Da Nang facilities for dioxin detoxification (CDD) of Vietnam.

Results: A limited number of patients were clinically assessed before enrolling in and after concluding the therapy, 35%, and 0% correspondingly. In addition, 15% of patients did not complete their daily PR session in the second stage, while 20% of them were not examined daily for treatment success in the fourth step by health personnel. Furthermore, 20% of patients did not follow all 6 phases of the Hubbard PR program.

Although centers were sufficiently equipped in terms of infrastructure and equipment, the study showed that there remained barriers in implementing the Hubbard PR process, such as the lack of human resources, wasteful usage of equipment, and the lack of technology application for electronic medical records management. For patients, the obstacles include the lack of information and comprehension about the program, and high temperature during the PR sessions (63%), extended PR duration (47%), too many drugs and supplements (37%), as well as expensive cost of therapy (35%).

Conclusion: Ensuring adherence and compliance at all levels in the Hubbard PR process may have a favorable influence on the health improvement of dioxin patients.

Keywords: Hubbard purification rundown, detoxification programmanagement, purification, detoxification, Hanoi, Da Nang

Introduction

According to the latest statistics from UNDP, there are 4.8 million people in Vietnam who were exposed to dioxin [1]. Many studies have shown that dioxin, once pervades the body, can cause complicated damages at multiple sites, leading to several diseases [10-11]. Current dioxin detoxification methods mainly address symptoms through integrated measures such as improving health with a diet rich in protein, vitamins, stimulating immunity, taking liver supplements to protect liver cells, or taking antioxidants in combination with steaming. Hubbard purification rundown (PR) is a nonspecialized detoxification method that is being used for the treatment of chronic poisoning and has brought some quite effective results in several countries around the world [2, 14-15]. This method can expel deeply embedded toxins from tissues, especially adipose tissue, push these into the circulatory system, and dispose of these through the excretory system (mainly through perspiration, urine, feces). Scientific evidence shows that Hubbard PR is capable of reducing the concentration of toxins in the body fat [2, 14, 16]. In Vietnam, the Hubbard PR method was implemented by specialized doctors in the early 2010s. The initial results were highly regarded by those who were exposed to agent orange/dioxin and underwent the treatment [3].

However, there are only individual reports for each patient cohort from the detoxification centers, but no overall researches and assessments of the implementation process, as well as the related advantages and challenges. Therefore, we conducted this study with the purpose to i) Assess the current state of Hubbard PR implementation at the detox centers, ii) Assess the treatment effectiveness of the Hubbard PR process for patients who were exposed to dioxin/agent orange, and iii) Analyze the strengths and challenges related to the implementation. The results of this research will be the scientific basis for policymakers to provide guidelines for the implementation and expansion of the Hubbard PR method in detoxification centers across the country.



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Traditional Applications, Phytochemistry, and Pharmacological Effects of Cassia fistula

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Abstract

People have always favored natural medicines because of the many negative effects of modern pharmaceuticals. Traditional specialists and herbalists are increasingly being sought out for their advice on how to manage stubborn medical conditions. The use of medicinal plants is crucial to the development of novel pharmaceuticals. In the ayurvedic medical system, the plant *Cassia fistula*, which is part of the Caesalpiniaceae family and is more often known as Amulthus and 'Indian Laburnum' in English, is used to treat a variety of ailments. The purpose of this page is to provide readers with all the information they need to do their own research on the traditional uses, therapeutic ingredients, characteristics, and effects, and chemical constituents of *Cassia fistula*. This page updates previous research on its pharmacological and phytochemical qualities. Anti-leishmanial function, killing fungi, killing bacteria and other microorganisms, killing fever, reducing fever, inhibiting oxidation, killing larval pests, killing fungi, and killing other microorganisms are just some of the activities revealed by the audit, along with anti-fiery activity, activity against tumor, cough suppressant, activity of the central nervous system, impact of clastogenic, and having tetracyclic activity. Reducing anxiety, soothing, and repairing effects, Actions that are hypolipidemic, hypocholesterolemic, leukotriene suppressing, hepatoprotective, and hypoglycemic. In conclusion, the dynamic standards should be contained, and treatment for various afflictions should be sought via the tracking of clinically-effective concentrations in an effort to learn how to control the instrument of subatomic activity by mining the environment for lead particles.

Keywords: Anti-leishmaniatic; Anti-microbial; Anti-parasitic; Anti-pyretic; Anti-carcinogenic; Antitussive; Hepatoprotective; Hypocholesterolemic; Hypoglycaemic; Hypolipidemic

1. Introduction

The healing properties of the plants that nature has provided are useful to all forms of life. Some plants' basic values have been widely disseminated for quite some time, yet many remain mostly undiscovered. Therefore, pharmacognostic and pharmacological investigations are required to identify their beneficial features and examine their applications. It's likely that information on the medicinal plants was collected over the course of many centuries. There is no solid documentation of the remedies used by prehistoric man. However, the oldest


book in human history, the Rig-Veda, describes how medicines were used to heal illness and revitalize the body's systems in ancient cultures as diverse as India's, China's, Greece's, and Rome's. Pakistan's Medicinal Plant Heritage

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The Anticancer Activity of Abemaciclib Is Modulated by Sodium Butyrate in MDA-MB-231 Human Breast Cancer Cells.

B Sravana Sree¹, K N Jyothirmayi²

Abstract

Treatment options are restricted for triple negative breast cancer, the most aggressive subtype of breast cancer. Abemaciclib and sodium butyrate were tested to see whether they had any impact on MDA-MB-231 triple-negative breast cancer cells. Abemaciclib, sodium butyrate, and their combination each had an IC₅₀ of 14.55 M, 7.08 mM, and 3.743 mM for their growth-inhibiting activities, respectively. Synergy was shown by a reduction in IC₅₀ to 2.55 M for abemaciclib and 3.74 mM for butyrate. The IC₅₀ of abemaciclib, butyrate, and their high and low dosage combinations were tested on three independent sets of four different cancer cell lines for 48 hours. A fifth group functioned as controls by receiving just entire medium. Cell migration, mRNA levels of CDK2, p16INK4a, and p53, and protein expression levels of cyclin D1, E2F2 transcription factor, phosphorylated AKT, nuclear factor kappa B (NF- κ B), retinoblastoma (Rb), and p16INK4a were measured across all treatment groups. The metastasis of cells was significantly suppressed by a combination therapy of abemaciclib and butyrate. Protein levels of E2F2, CDK2, and NF- κ B were all found to be lower, and the degree to which they were phosphorylated by AKT was also reduced, after receiving the combined therapy. The hypo-methylated condition of the DNA was reversed, and levels of Rb and p16INK4a were increased. Abemaciclib alone had no effect on cyclin D1 or p53 levels, while the combination dramatically decreased cyclin D1 and increased P53. When butyrate was added to abemaciclib, the antiproliferative and antimetastatic properties of abemaciclib were enhanced, and apoptotic activity was produced.

Keywords: Breast cancer, TNBC, cell cycle, epigenetics, CDK4/6

Introduction

In terms of mortality rates, breast cancer is second only to lung cancer [1]. The lifetime chance of developing breast cancer is 1 in 8 for females [2]. Histopathology of the cells, grade, stage, and the molecular profile of the tumor are used to categorize breast cancer [1]. Breast cancer is divided into four subtypes based on their molecular profiles: luminal A (estrogen receptor (ER) positive, progesterone receptor (PR) positive, and human epidermal growth factor receptor (HER2) negative), luminal B (ER, PR, and HER2+), HER2 enriched (ER-, PR-, and HER2+), and triple negative breast cancer (TNBC), which lacks the expression of ER, PR, and HER2[3]. When compared to other subtypes of breast cancer, which often migrate to the bone and soft tissues, TNBC is one of the most aggressive because of its high proliferation rate and high tendency to metastasize to

distant organs like the brain and lung [4]. The absence of ER, PR, and HER2 expression, together with the aggressive nature of this chemotherapy is still the sole available treatment for this form of cancer. Several common markers of cancer development that contribute to the change of normal cells into malignant cells have been uncovered in the previous decade. These characteristics include resistance to apoptosis [5], unchecked cell proliferation [6, 7], and genetic or epigenetic alterations [8, 9]. In epigenetic regulation of gene expression, tiny tags on histone proteins or DNA sequences [6] cause heritable changes in gene expression that persist until mitosis [7]. The nucleosome is the fundamental structural component of eukaryotic chromosomes.

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Antimicrobial Use, Adverse Effects, and Cost of Drug Therapy in Pediatric Respiratory Tract Infections: A Systematic Review and Meta-Analysis

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Abstract

The purpose of this study is to examine the use of pharmaceuticals in the treatment of RTIs in children. A tertiary care teaching hospital conducted a cross-sectional observational study of 74 children with RTI. A systematic case record form was used to capture and analyze patient demographic and illness information, prescription history, adverse drug responses, and treatment costs. Treatment efficacy was evaluated in light of World Health Organization and Indian Academy of Pediatrics (IAP) recommendations.

The majority (54.05%) of the 74 patients were children (aged 0-1). Additionally, the majority (67.57%) of the patients were men. Pneumonia was the leading diagnosis (48.5%). 7.251.57 drugs per patient on average (from 3-16 drugs). Antibacterial drugs (100%) were the most often prescribed kind, followed by pain relievers/fever reducers (95.94%), and then respiratory drugs (86.49%). Amoxicillin/clavulanic acid (90.54%) and ceftriaxone (77.77%) were the two most common antibacterial drugs administered. Antihistamines (85.13%) and salbutamol (55.40%) were the most often given respiratory medications. The majority (75%) of prescription medications came directly from the WHO-EML, and generic names were used in 56.81% of all cases. According to the WHO and IAP recommendations, only 13.51 percent of patients received appropriate or rational medication treatment, while the remaining 35.14 percent received semi-rational drug therapy and 51.35 percent received illogical drug therapy. An adverse drug reaction (ADR) caused by an antibiotic, pain reliever, or fever reducer occurred in 16.22% of patients. The overall cost of antimicrobials was estimated at Rs. 286.17 per patient, with drugs costing an average of 314.69 Rs. The research found that antibacterials and respiratory medications were often overprescribed. Better and more prudent medication usage in pediatric patients may be possible with an increased focus on accurate diagnosis and treatment, patient education, and the availability of locally-effective recommendations.


Keywords: Infections in children's lungs; The use of antibiotics; Proper dosing; Drug treatment cost estimates; Adverse events in children

Introduction

In both industrialized and developing nations, respiratory tract infections are the leading cause of illness and death in children under the age of five [1]. Among children under the age of five, they account for 20% of deaths in India but for just 3% in the developed world [2]. Both the birth and mortality rates for children are greatest in India [2]. About 1.7 million children under the age of five died worldwide in 2010, with India accounting for almost a quarter of that number [2]. Pneumonia kills roughly 24 percent of children

under 5 in the United States [2,3]. Reducing the under-five mortality rate to less than 25 per 1,000 live births by the year 2030 is one of the 'Sustainable Development Goals' announced by the United Nations in 2016. By the year 2030 [3,] it aims to reduce communicable disease outbreaks and fatalities that may have been avoided. Therefore, efforts should be made to treat as many children as possible in order to reduce their risk of death.

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The Relationship between High Absolute Lymphocyte Counts and Favorable Prognosis in Eribulin Therapy is seen in First-Line Chemotherapy for Metastatic Breast Cancer: Combined Analysis of Two Phase 2 Studies

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Abstract

Background: The impact of prior chemotherapy on blood cell counts may necessitate an evaluation of baseline absolute lymphocyte count (ALC) and neutrophil-to-lymphocyte ratio (NLR) in first-line chemotherapy patients, despite their association with improved PFS and OS.

Methods: Two phase 2 studies (BIRICHEN and OMC-BC 03) were retrospectively assessed to determine the efficacy of first-line eribulin chemotherapy in patients with human epidermal growth factor receptor 2 (HER2)-negative metastatic breast cancer (MBC). For the sake of comparison, data from HER2-negative MBC patients treated at Osaka Medical and Pharmaceutical University Hospital between March 2013 and March 2017 who underwent first-line chemotherapy other than eribulin (treatment of physician's choice; TPC) were also studied.

Keywords: Metastatic breast cancer, Overall survival, Eribulin, Treatment of physician's choice, Absolute lymphocyte count

Introduction

The EM- BRACE study [1] showed that eribulin improved OS in patients with HER2-negative metastatic breast cancer (MBC) without causing serious non-hematologic side effects. Absolute lymphocyte count (ALC), an immune response measure, was shown to be a predictive predictor of overall survival (OS) following treatment with eribulin [2] in a recent ad hoc analysis of the study. Interestingly, ALC was not a diagnostic indicator for the TPC group (physician's choice treatment) [2]. In early-stage breast cancer, the neutrophil-to-lymphocyte ratio (NLR) is an important prognostic predictor [2, 3]. In both the eribulin and TPC groups, NLR was associated with improved progression-free survival (PFS) and overall survival (OS) in an ad hoc analysis of the EMBRACE trial [2]. However, past chemotherapy must have affected the blood cell count, since that is the treatment that the experiment focused on. Patients undergoing first-line chemotherapy should have their ALC and NLR assessed at the outset to account for the potential impact of prior treatment on blood cell counts.

In two phase 2 studies, we calculated the effectiveness of eribulin as first-line chemotherapy for HER2-negative metastatic breast cancer in Japan, and the results were impressive [4, 5]. To test the hypothesis that ALC is a prognostic marker for first-line eribulin treatment but not for TPC, we compared baseline ALC and NLR in patients who

participated in these studies with patients with first-line TPC who were treated at the same time.

Patients and Methods

Patients

In this analysis, we compared two groups (eribulin and TPC groups). Fifty-nine patients with HER2-negative MBC were enrolled in the eribulin group; 35 were treated with first-line chemotherapy with eribulin in the BIRICHEN trial (UMIN000006086) [4] and 24 were treated with first- and second-line chemotherapy in the OMC-BC 03 trial (UMIN000009568) [5]. At the same time as the OMC-BC 03 trial (1 March 2013–1 March 2017), we recruited 48 patients with HER2-negative MBC who had previously undergone first-line chemotherapy with drugs other than eribulin at Osaka Medical and Pharmaceutical University Hospital for the TPC group. Patients who had prior endocrine treatment were considered, but those who had molecularly targeted therapy (such as CDK4/6 inhibitors or mTOR inhibitors) were not.

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Development and Assessment of the Reliability and Validity of a Psychological Stress Scale for Catheterized Home Healthcare Patients

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Abstract

Background: Accidental dislodgement of tubes/catheters from patients' bodies is prevalent in healthcare; making it a significant patient safety management concern. Additionally, the number of patients requiring catheter care at home has grown with the growth in aging patients. Pain or stress from directly introducing a tube/catheter into the body causes unintended dislodgement. However, quantitative measures have not yet been developed to measure patients' stress arising from dislodgement anxiety.

Aim: This research aims to design a psychological stress scale for patients using tubes/catheters at home (PSS-CP) and assess its reliability and validity.

Materials and Methods: The questionnaire was prepared via interviews with 10 patients utilizing tubes/catheters at home. Reliability was assessed using the test-retest technique and Cronbach's α . Factorial and criterion-related validity were investigated using exploratory factor analysis and the 12-item General Health Questionnaire, respectively.

Results: The PSS-CP comprised 16 items across four factors: "anxiety about catheter dislodgement while moving or in the toilet," "anxiety about tube dislodgement when resting or lying down," "anxiety about tube dislodgement while dressing/undressing," and "anxiety about tube dislodgement while bathing." Criterion-related validity was substantially linked with general anxiety ($r = 0.71, p < 0.01$) and pain/discomfort ($r = 0.364, p < 0.05$). The retest approach indicated a very significant correlation ($r = 0.791, p < 0.01$), with Cronbach's $\alpha > .90$.

Conclusions: A scale to evaluate psychological stress among catheterized home healthcare patients was established and its reliability and validity proved.

Keywords: stress, home healthcare, health safety, patient safety, scale development

1. Introduction

Accidental dislodgement of tubes/catheters from patients' bodies regularly happens in healthcare settings [1, 2]. Such dislodgements, other than endangering the patient's life, entail high costs for both patients and healthcare professionals alike, resulting in problems such as disruption of targeted drugs and nutritional delivery, persistence of foreign substances, pain/insertion error/injury at reinsertion, increased strain on labor resources, and elevated economic costs. Hence, the avoidance of unintentional dislodgements has arisen as a critical concern in patient safety management.

Considering this clinical concern, hospitals have progressively introduced countermeasures, including the use of more tightly fastened tubes/catheters and physical constraints on patients [3]. According to the Japan Council for Quality Health Care Medical Accident Prevention Center's online publication, "Japan Council for Quality Health Care Project to Collect Medical Near-Miss/Adverse Event Information 2018 Annual Report," medical institutions reporting on tube/catheter management disclosed a high incidence of dislodgement: 1,210 self-dislodgement and 126 spontaneously dislodged tubes/catheters [4]. Furthermore, available statistics ascribe the largest frequency of unintentional tube/catheter dislodgement to acute geriatric hospitals [5], signaling that such accidental dislodgements nevertheless remain an unsolved concern.

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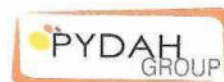
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Education & Beyond

List of conferences

S. No	Name of the teacher	Title of the proceedings of the conference	Name of the conference	National / International	Calendar Year of publication	Affiliating Institute at the time of publication
1.	Dr. Ch.Prasad	Global advances in Pharmaceutical and allied sciences	APP 5th INDIO-CARIBBEAN CONFERENCE	National	2021	VJ'S COLLEGE OF PHARMACY
2.	Dr.K.Rajesh	Global advances in Pharmaceutical and allied sciences	APP 5th INDIO-CARIBBEAN CONFERENCE	National	2021	VJ'S COLLEGE OF PHARMACY
3.	A.Venkateswara Rao	Global advances in Pharmaceutical and allied sciences	APP 5th INDIO-CARIBBEAN CONFERENCE	National	2021	VJ'S COLLEGE OF PHARMACY
4.	K.Satya Bhavani	Global advances in Pharmaceutical and allied sciences	APP 5th INDIO-CARIBBEAN CONFERENCE	National	2021	VJ'S COLLEGE OF PHARMACY
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6.	B.Sravana Sree	Global advances in Pharmaceutical and allied sciences	APP 5th INDIO-CARIBBEAN CONFERENCE	National	2021	VJ'S COLLEGE OF PHARMACY
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8.	K.Manga Lakshmi	Global advances in Pharmaceutical and allied sciences	APP 5th INDIO-CARIBBEAN CONFERENCE	National	2021	VJ'S COLLEGE OF PHARMACY
9.	Dr.G.Mani Kumar	Global Pharmaceutical Regulatory Affairs	Association of Pharmaceutical Teacher's of India(APTI)	National	2023	K.G.R.L.COLLEGE OF PHARMACY

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10.	Dr.P.Sai Krishna	Global Pharmaceutical Regulatory Affairs	Association of Pharmaceutical Teacher's of India(APTI)	National	2023	K.G.R.L.COLLEGE OF PHARMACY
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organized by APP Odisha State Branch & APP West Indies International Branch

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organized by APP Odisha State Branch & APP West Indies International Branch

in collaboration with APP Analytical Chemistry Division

on the 29th day of December 2021.

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in Association with

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on 28th January, 2023

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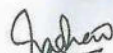

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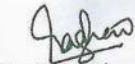

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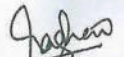

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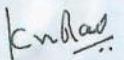
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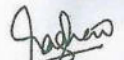

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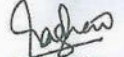

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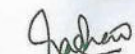

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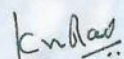
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