MALLA REDDY INSTITUTE OF
PHARMACEUTICAL SCIENCES

Maisammaguda, Hyderabad, Telangana

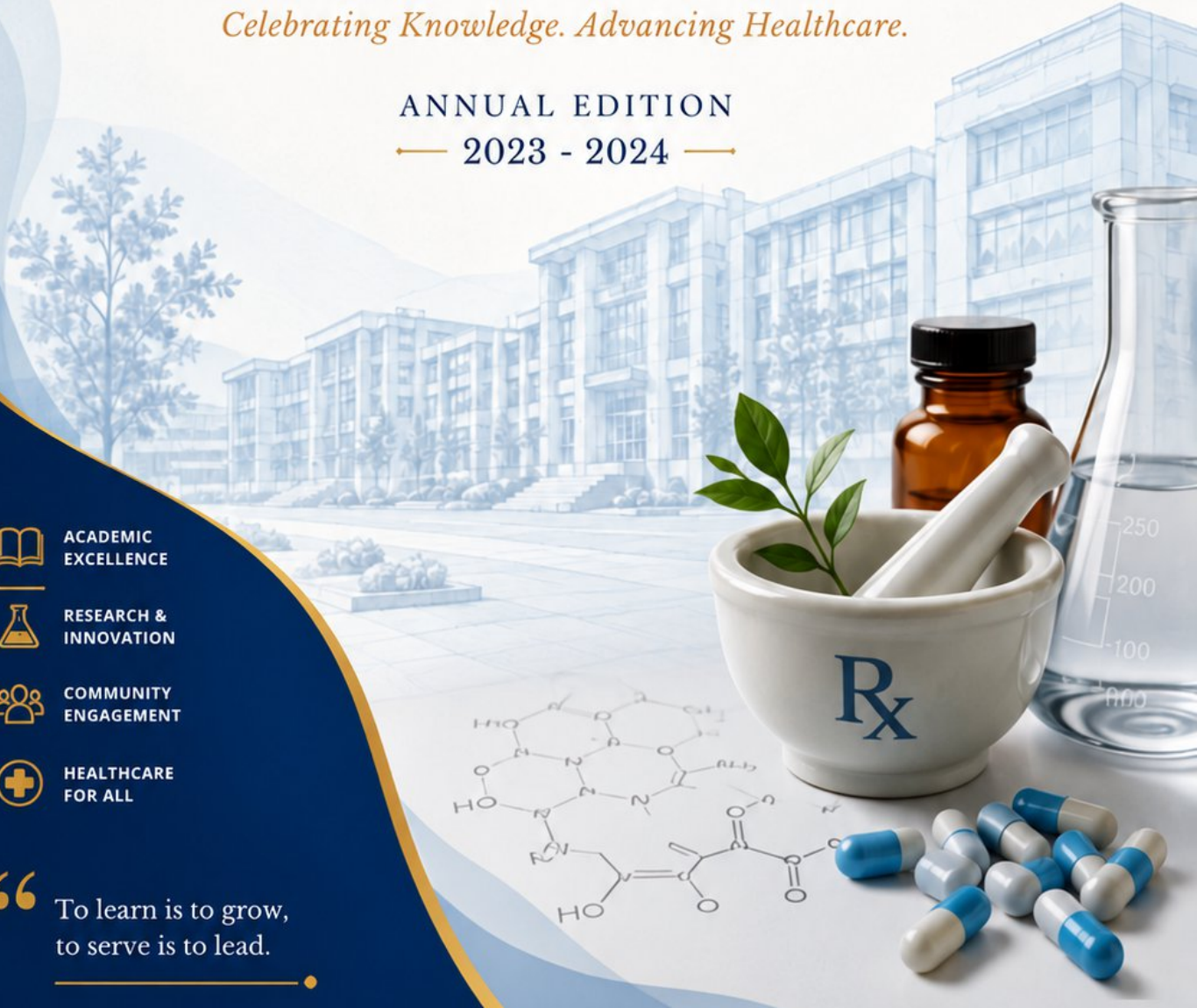
MRV PharmaNexus 23

INSPIRE • INNOVATE • IMPACT

Celebrating Knowledge. Advancing Healthcare.

ANNUAL EDITION

2023 - 2024



- ACADEMIC EXCELLENCE
- RESEARCH & INNOVATION
- COMMUNITY ENGAGEMENT
- HEALTHCARE FOR ALL

"To learn is to grow, to serve is to lead.

PHARMANEXUS 2023



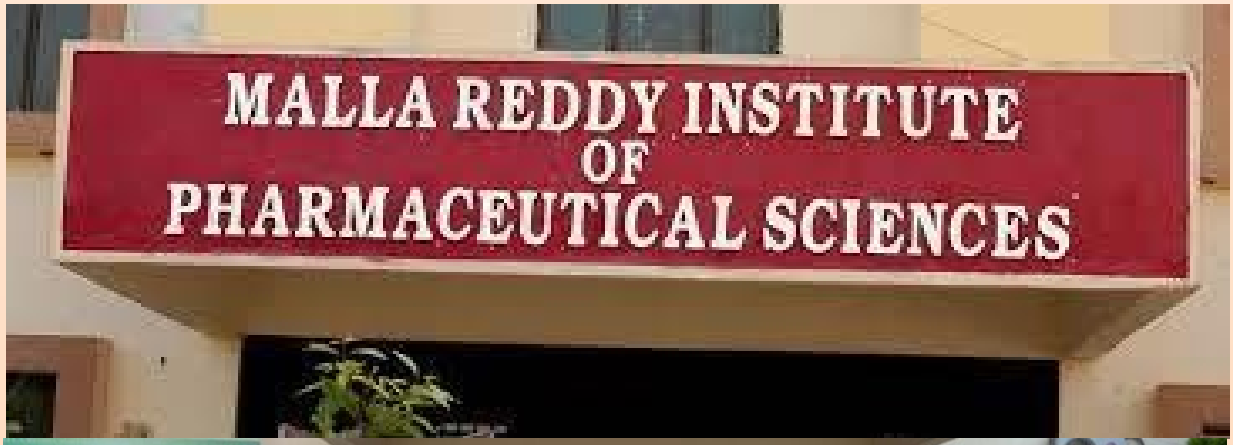








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MALLA REDDY INSTITUTE OF PHARMACEUTICAL SCIENCES
MRGI

ABOUT THE COLLEGE

Malla Reddy Institute of Pharmaceutical Sciences (MRIPS) is a constituent College Of Chandramma Educational Society founded in the year 2005 by Sri. Ch. Malla Reddy, an eminent educationist in the state of Andhra Pradesh. MRIPS an abode to learn., an opportunity to excel strongly believes that education is not just a mere act of teaching-learning, but aims and puts relentless efforts in training, guiding, motivating and leading young budding pharmacists in the ever expanding horizon of insatiable thirst for knowledge.

The college was started in the year 2005, to achieve excellence in the field of Pharmacy. The college has well qualified and dedicated faculty. The Department has been organizing several national conferences, Faculty Development Programs for the benefit of the faculty and student community.

Vision

- To become a model institution in the field of Pharmacy.
- To be an academic institution in dynamic equilibrium with its social, ecological and economic environment striving continuously for excellence in education.

Mission

To pursue and disseminate at improving the health standards.

Goal

Pharmaceutical knowledge through quality teaching, research and service development aimed.



Message from Founder Chairman

Change does not necessarily assure progress, but progress implacably requires change. Education is essential to change, for education creates enchanting desires and the competence to satisfy them. Our motto is to enlighten, inspire young women to set their hearts on fire, give wings to their dreams and to craft our institution, a quintessential arena to hone their power of knowledge to acts as ambassadors of change and guiding angels of progress in the field of engineering.



Message from Principal's Desk

Malla Reddy Institute of Pharmaceutical Sciences is an educational institute established by Ch. Malla Reddy Garu. He being the founder chairman, a philanthropist, a politician had a vision for pharmacy education. He saw education as an exercise in aiding the nation's growth. We have come a long way from those early years. Today, the MRIPS community is a leading place for budding pharmacists to emerge. Be it academics, extra-curricular or co-curricular activities, MRIPS has proven itself time and again.

The students have won several awards. The prestigious Andhra Naidu Endowment award, Gold medal for ranking 1 among all the affiliated pharmacy colleges. They have been placed at different institutions through our placements.

Our faculty is trained from some of the best places and update themselves consistently. We continued to hold numerous workshops and online sessions even during the pandemic.

I feel happy to know that the College Magazine Committee is bringing out the technical magazine 'Pharmacon' which is in fact long awaited which provides a platform to students for their creativity, self-expression, learning experiences and even an identity they will be proud of through accepting the challenge of writing. Such an opportunity assumes importance in today's age of competition. This magazine allows its readers to delve into and appreciate new voices, at times radical expressions and opinions of the budding writers and authors. I congratulate the Chief Editor & the entire Editorial team for bringing together this edition of the magazine.

Our students graduate with the skills, mind sets and qualities that will best equip them for success. I look forward to all students reaching new heights in their respective fields and making our College a proud institution. They are the future leaders and role models of society. Wishing you all the best in the world of the future.

Dr. B. RajKamal,
M.Pharm.,Ph.D



Message from Vice Principal

The technical magazine has provided an opportunity to faculty and students, to express their ideas and share their topics of interests.

I feel extremely happy to speak to you through this magazine as our college MRIPS is releasing its annual college technical magazine-Pharmacon for the academic year 2021-2022.

Publishing this is indeed a tedious and herculean task. Though our students are involved in their regular academic activities, Pharmacon gives them an opportunity to show their technical skills which they have learnt and they are being encouraged and persuaded to exhibit their writing skills.

The response of the students in contributing articles to the magazine was really overwhelming. Their contribution has shown them an intellectual insight and helped them widen their knowledge beyond syllabus with their excellent command on language.

My message to all my dear students is to Aim always high, to be a good citizen and become a leader to save our country in one way or the other.

Dr. J. Sangeetha,
M.Pharm., Ph.D.

Editorial Message



Welcome to the edition of Pharmacon – Malla Reddy Institute of Pharmaceutical Sciences Technical Magazine.

While handling over this beautiful piece of creation to all readers, my journey in editorial has always been about learning new things. This task was indeed not an easy one but everyone's contribution and efforts made it possible. Our heartfelt gratitude goes to each one of them.

First and foremost, we are immensely thankful to our chairman, Ch. Malla Reddy Garu for having a great vision in making MRIPS a model institution in the field of Pharmacy and for being a pillar of strength by our side. We sincerely thank our honorable Principal Dr. B. Rajkamal for showing belief in us to shoulder this huge responsibility. The pursuit of compilation of this idea was only possible because of our Vice Principal Dr. J. Sangeetha. The support of right people and consistent working on things can make us achieve our destination. And this was rightly made by the editorial team of MRIPS. I thank and congratulate the entire team for the constant support and effort to achieve this milestone.

The magazine committee is glad to note that many of the teachers and the students have evinced interest in the magazine by contributing creatively and interesting articles. This issue is a treasure of case studies, review articles, research articles, and topics related to various branches of Pharmaceutical knowledge.

The Editorial team is looking forward to make this Pharmacon magazine, a vehicle for students to express their creative minds of our promising prodigies.

Thank You

Mrs. B. Revathi
Assistant Professor
Department of Pharmaceutical Chemistry

Staff coordinators for various events



Dr. J. Sangeetha,
Vice Principal
HOD, Dept. of Pharmacognosy



Mrs. B. Revathi
Asst. Professor
Dept. of Pharm. Chemistry



Dr. S. Ravindra Babu
Professor & HOD
Dept. of Pharmacology & Pharm D



Dr. B. Rama
Professor
HOD, B.Pharmacy



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Professor & HOD,
Dept. of Pharmaceutics



Dr. Valli Kumari
Professor
Dept. of Pharm. Analysis

Student Editorial Team



M. Santosh
Pharm D VIYr



Saakshi Bhatt
Pharm D V Yr



Lahari Chowdary
B Pharm IV Yr



Deepika. B
B Pharm IV Yr



Anil Kumar
B Pharm III Yr



M. Rajeswari
Pharm D IV Yr



Durga Bhavani. B
Pharm I Yr



MV. Abhinay
B Pharm I Yr



Deepika
Pharm D III Yr



T. Himaja
Pharm D I Yr



Technical Assistant
P. Ramesh Kumar

Malla Reddy Institute of Pharmaceutical Sciences

The Oath of Pharmacist

I swear by the code of ethics of Pharmacy Council of India, in relation to the community and shall act as an integral part of health care team.

I shall uphold the laws and standards governing my profession.

I shall strive to perfect and enlarge my knowledge to contribute to the advancement of pharmacy and public health.

I shall follow the system which I consider best for Pharmaceutical care and counseling of patients.

I shall endeavor to discover and manufacture drugs of quality to alleviate sufferings of humanity.

I shall hold in confidence the knowledge gained about the patients in connection with my professional practice and never divulge unless compelled to do so by the law.

I shall associate with organizations having their objectives for betterment of the profession of Pharmacy and make contribution to carry out the work of those organizations.

While I continue to keep this oath unviolated, may it be granted to me to enjoy life and the practice of pharmacy respected by all, at all times!

Should I trespass and violate this oath, may the reverse be my lot.

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Training and Placement Cell



Training and Placement Officer,
mripsplacements@gmail.com

Malla Reddy Institute of Pharmaceutical Sciences Has been in the field of Pharmacy for the past 17 years with the intention of spearheading quality education among children from the school level itself. MRIPS has a well- established training and placement cell.

The Placement Cell plays a crucial role in locating job opportunities for Under Graduates passing out from the college by keeping in touch with reputed firms and industrial establishments. The Placement Cell operates round the year to facilitate contacts between companies and graduates. The number of students placed through the campus interviews is continuously rising. On invitation, many reputed industries visit the institute to conduct interviews.

We have been successful in maintaining our high placement statistics over the years and the fact that our students bear the recession blues with record breaking placements itself is a testimony to our quality. Our ingenious alumnae have set new standards in the corporate world through their estimable contributions, and it is my firm conviction that we will continue that legacy in the years to come.

The Placement Cell organizes career guidance programmes for all the students starting from first year. The cell arranges training programmes like Mock Interviews, Group Discussions, Communication Skills Workshop etc and it also organizes Public Sector Exam Training for students who are interested to join Government Sectors.

It also invites HR Managers from different industries to conduct training programmes for final year students.

Objectives:

- Developing the students to meet the Industries recruitment process.
- To motivate students to develop Technical knowledge and soft skills in terms of career planning, goal setting.
- To motivate students aspire for higher studies and guiding them to take competitive exams such as GATE, TOEFL, GRE, IES, UPSC, etc.
- Aiming to Place the maximum number of students through on-campus & off-campus interviews conducted by the top companies.

Mr. M. Suresh

Malla Reddy Institute of Pharmaceutical sciences

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Alumni

The alumni of the institute hold responsible and enviable positions in different parts of the world and are in constant touch with the institute.

The broad objectives of the Alumni Association are:

To bring the alumni together, to keep them in contact with the Alma Mater

To foster relationships between the alumni and the present students

To get participation of alumni in the developmental activities of the college through alumni members

To improve placement opportunities for fellow alumni and fresh graduates

Alumni association arranges regular interactions for its members at least once every year. The meetings are attended by the alumni in large numbers.

The participants share their experiences and give valuable inputs.



MALLA REDDY INSTITTUTE OF PHARMACEUTICAL SCIENCES PLACEMENTS Academic year 2021-2022

S.NO	COMPANY NAME	NO.OF STUDENTS ATTENDED	NO.OF STUDENTS SELECTED
1	MEDICO HEALTHCARE SERVICES & TECHNOLOGIES	110	10
2	SDS PATHOLOGY INDIA PVT LTD	120	34
3	MEDI ASSIST TPA LTD	65	12
4	ALEMBIC PHARMACEUTICALS Pvt. Ltd	96	37
5	INFOCUS RX	88	7
6	APOLLO PHARMACY	60	21
7	ELICO HEALTH CARE SERVICES	92	20
8	BYJUS	30	2
9	MSN LABORATORIES PVT LTD	18	4
10	CARE HOSPITALS	5	1

MALLA REDDY INSTITTUTE OF PHARMACEUTICAL SCIENCES PLACEMENTS Academic year 2020-2021

S.NO	COMPANY NAME	NO. OF STUDENTS ATTENDED	NO. OF STUDENTS SELECTED
1	MEDICO HEALTHCARE SERVICES & TECHNOLOGIES	80	6
2	PATWARI PHARMA	73	13
3	SDS PATHOLOGY INDIA Pvt. ltd	85	27
4	MEDPLUS	54	25
5	ALEMBIC PHARMACEUTICALS Pvt. Ltd.	42	6
6	ALPHAMED FORMULATIONS Pvt. Ltd	15	4
7	SARA INFOWAY ITES INDIA Pvt. Ltd.	30	3
8	DOCTUS SOFTWARE SOLUTION Pvt. Ltd	61	08

Memories Wrapped Poetry

We were like Buds Just waiting to open
In the garden of dreams
In the aims of our parents and teachers
The fragrance of love
The colours of your care Added
to the soul
You helped us to grow Lot of
happiness
With a pinch of naughtiness Those
lessons you taught Those morals
you gave

All those moments
Those never breaking bonds Those
hearts on which

We carved our names

Those classrooms in which our knowledge groomed

Those lovely friends

These are the memories
We cherish forever Embedded
in our hearts Forever and ever

Santhosh Maddi
Pharm D VI Year

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Journal Article Categories

Knowing the various article categories that journals publish will be beneficial. The majority of articles published fall into one of the following categories: Original research, Review articles, Short reports or letters, Case studies, Methodologies, etc. Despite the fact that there appear to be many different types of articles published due to the wide range of names they are published under.

I. Original research

To publish comprehensive summaries on research findings, this is the most typical sort of journal manuscript. Depending on the journal, it may be referred to as an original article, a research article, or simply an article. Many different fields and types of studies can use the Original Research format.

II. Short reports or Letters

These papers communicate brief reports of data from original research that editors believe willbe interesting to many researchers, and that will likely stimulate further research in the field. Asthey are relatively short the format is useful for scientists with results that are time sensitive(for example, those in highly competitive or quickly-changing disciplines). This format often hasstrict length limits, so some experimental details may not be published until the authors write afull Original Research manuscript. These papers are also sometimes called Briefcommunications; Methods, Results, and Discussion are included.

III. Review Articles

Review Articles give a thorough overview of the research on a particular subject and offerinsight into the current state and future directions of the field. They are frequently authored byauthorities in a field upon invitation from journals editors. Reviews are frequently readwidely and frequently quoted (for instance, by scholars searching for a thorough introduction toa discipline). Reviews typically list 100 original research articles.

Tip: Check the journal website if you would like to write a review but have not received an invitation from the publication. Some publications do not accept unsolicited reviews. It is advisable to submit a pre-submission inquiry letter to the journal editor to offer your Review manuscript before you waste time writing it if the website does not specify whether Reviews are commissioned.

IV. Case Studies

These writings detail particular occurrences of intriguing phenomena. Making other Researchers aware of the potential for particular phenomena to occur is one of the objectives of case studies. In medicine, this kind of investigation is frequently used to describe the incidence of previously unidentified or newly emerging disorders.

V. Methods or Methodologies

These articles outline a novel experimental technique, experiment, or process. The approach provided can be an improved version of an existing method or it might be altogether new. The post should outline a concrete improvement above what is already accessible.

VI. Commentaries and letters to the editor:

Letters to the editor may contain anecdotes, brief observations on current public and political issues relevant to the journals field of study, or responses and reactions from readers to the material the journal has published. Commentaries are comparable to letters to the editor but differ slightly in that they may focus on a certain type of journal article that has been published by the journal and provide in-depth responses.

VII. Data notes

These are brief explanations of research data found in a repository. By describing why and howthe data were developed, data notes promote the reuse of research data. These data can beconnected to a study that has examined the supplied dataset and published its findings.

VIII. Data sets

Research data are published in data repositories as datasets. Datasets of numbers, data files or spreadsheets, pictures, and videos can all be included. Datasets let users cite the gathered information and give the author credit(s).

IX. Book review

A book review discusses recent publications and gives readers an overview of their content aswell as an analysis of the information found in scholarly works that have been published. The preferred length and structure for book reviews varies among the periodicals.

X. Clinical study report

A clinical study report typically has the same length and organization as an original research publication and describes the steps and results of a clinical experiment. The author must include their clinical trial numbers and registration dates in the clinical research report when submitting it.

Sai Vinusha Doddi
B-pharm 4A

Pharma Pro & Pack Expo, 2022

Pharma Pro & Pack Expo, India top and exclusive pharmaceutical machinery exhibition, was held in Hyderabad in2022 after a nearly 3-year gap. Covid-19 has amply demonstrated the significance of a strong healthcare system, without which an entire country's economy and society may be at risk. The healthcare and economic outcomes of the nation have greatly benefited from the efforts of the Indian pharmaceutical sector.

Pharma Pro & Pack Expo strengthens the manufacturing sector by providing a perfect setting for net working and the chance to familiar is oneself with the newest equipment by bringing the leading players in the sector together on a single platform. Pharma Pro & Pack Expo's final physical edition, which took place in 2019, was a major success, drawing more than 12,832 attendees and more than 80 exhibitors.

It is the sole pharma machinery exhibition in India's pharmaceutical industry. It strengthens the manufacturing sectors by providing the greatest environments for networking and the chance to learn about the newest innovations by assembling the top talent on a single stage. The trade show offers insights into the business as well as a chance for the exhibitors to get in touch with the buyers directly, thanks to a line-up of interesting supporting events that includes a conference on current issues.

The Indian pharmaceutical industry is the third largest in the world, and we have seen a record growth of about 11% in FY22, mainly driven by emerging and domestic market Analytica Anacon India, India Lab expo , and Pharma Pro &Pack Expo, said Harshit Shah, president, Indian Pharma Machinery Manufacturers Association, joint organiser of Pharma Pro & Pack Expo 2022 "We are happy to be back again as the industry was missing face-to-face business discussions and networking."

Manikya Ruchitha
Pharm D 5th year

Blood Donation Camp

On Tuesday, 15th November, 100s of students and faculty from Malla Reddy Group of Institutions headed towards Malla Reddy Institute of Pharmaceutical Sciences for Donating blood which was organized by **MRIPS In association with Thalassemia and Sickle cell society (TSCS).**

Icing on the cake was the goodies received by every donor sponsored by HDFC. Many faculty and students participated in he event and made it a huge success.

A total of 270 members donated blood while many others who thronged to the campus to donate blood found ineligible. Understanding the moral and social responsibilities of the institution in view of Thalassemia, MRIPS took an initiative to conduct this blood donation camp.







While it started at 10 am ended by 5pm , where the Thalassemia & Sickle cell society as well as HDFC has honored the PRINCIPAL OF MRIPS Dr. B. Rajkamal , Faculty Cordinator Mrs. B.REVATHI , and Student Coordinators Santosh, Vivek, Ajith and Vishal with a momento and a certificate for volunteering the event. Other staff from MRIPS Dr. Ravindra Babu, Dr. Rama, Dr. Sangeeta, Dr. K. Sechna and Mrs. Sarika were volunteering the event every now and then. Faculty from other colleges gave a feed back on how well it was organized starting from registration to donation and till receiving certificate by the donor.

On whole entire team of MRIPS wholeheartedly thanks everyone for making this event a huge success.

Mrs. B. Revathi
M. Santosh

WORLD PATIENT SAFETY DAY 17th SEPTEMBER 2022

Admiring the auspiciousness of the day MRIPS celebrated the World Patient Safety Day by organizing series of events like Demonstrations, Poster presentations, Quiz, Debate and Just A Minute sessions with Pharmacy students. The day aims to raise the global awareness of medication related harm caused due to errors and unsafe practice and advocate urgent action to improve medication safety for patients.

We MRIPS Pharm D 4th year students took up this opportunity to explore the role of Pharmacist towards Patient safety. Moving ahead of elocution or essay writing came up with an unique approach to create awareness about a Pharmacist role in Health care settings. We planned demonstrations in which students should act as pharmacists and create awareness about the role of pharmacists in various domains of healthcare.

We could enroll the participants playing the role of Clinical Pharmacist in NABH accreditation to hospitals, role of Community Pharmacist, role of Pharmacist in patient counselling and role of Pharmacist as a drug inspector.

JAM sessions are part of knowledge exchange where students share the unique nformation regarding drugs or a Disease.
World Patient Safety Day is one of the WHO's global public health days. It was established in 2019 by the Seventy-second World Health Assembly through the adoption of resolution WHA72.6- "Global action on patient safety". Its objectives are to increase public awareness and engagement, enhance global understanding, and work towards global solidarity and action by Member States to enhance patient safety and reduce patient harm.

Every person around the world will at some point in their life, take medicine to prevent or treat illness. However, medications some time cause serious harm if incorrectly stored, prescribed, dispensed, administered or if monitored. The ongoing COVID 19 pandemic has significantly exacerbated the risk of medication errors and associated medication related harm. It is in this context that **"Medication safety"** has been selected as the theme for World Patient Safety Day 2022 with the slogan **"Medication without Harm"**.

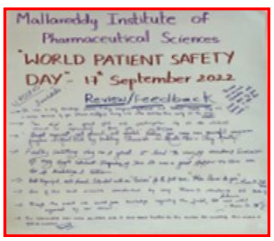
Whole day students were engaged in this knowledge exchange program and were very keen to participate in all the activities. As part of this program we as seniors tried to interact with juniors by providing them these slips in which they can drop their queries regarding academics and career opportunities. With the help of our faculty, seniors and other resources we could answer some of the queries.

These are the batches designed by our creative team and all the decoration and lighting were in orange in support of medication safety.

It was a great experience organizing such a knowledge exchange program coordinating among ourselves under the guidance of MRIPS Event Co- Ordinator and Asst Professor Revathi Mam. We Pharm D students thank our honorable principal sir and respected faculty for extending their support and making this event grand success.









M. Rajeshwari & A. Rakesh
Pharm D 4th year

World Pharmacist Day- 25th September 2022 at MRIPS

Theme:
Pharmacy United in Action for A Healthier World

Why do we celebrate on 25th September?
The International Pharmaceutical Federation (FIP) established World pharmacist Day on 25th September at the World Congress of Pharmacy and Pharmaceutical Sciences in Istanbul, Turkey in 2009.Hence, 25th September was chosen to celebrate the World Pharmacist day.

How We Celebrated World Pharmacist Day -2022 at MRIPS
We started our program with the lamp lightening by our beloved principal sir Dr. B.Raj Kamal and Vice Principal Mam Dr. J. Sangeetha. Followed by congratulating pharmacists and speeches by Principal Dr. B. Rajkamal Sir, Dr. J. Sangeetha mam and Dr. B.Rama mam. Then there was a welcome dance performed by Vinisha from B- Pharm 3B as a welcome prayer song (Bharatanatyam). The chief guests of the event has enlightened us with their ocean of knowledge and provided us suggestions and guidance towards a successful career. Then followed by pharmacist oath. List *of Events Conducted on The Occasion of World Pharmacist Day at MRIPS*
Skit, Debate, Essay writing, Elocution, Poster presentations,

Formation of Rx **Theme and participants involved in skits:** B-Pharm 3rd Year sec-A: Importance of patient safety (Winners)B-pharm 1st year Sec-B: Role of pharmacist during pandemic (Runners)
Topics for debate: What if all the drugs are included OTC? What if the PCI certificate is sold outside? Is it advantageous or is advantageous? Winners: Pharm-D 5th Year Runners: B Pharm 4th Year Sec B.

Topic of the Poster Presentation:
Pharmacy United in action for a healthier world.
Winner :
Lahari Chowdary,
B. Pharm 4th Yr Sec B
Topic for Essay Writing:
Importance of artificial intelligence in pharmacy/ health industry. Winner: Saakshi, Pharm- D 5th Yr, Runners: Sagarika, B. Pharm 1A

Topics for elocution: Role of pharmacist during pandemic Importance of Maths in pharmacy **Importance of herbal drugs in pharmacy.**

Winner: Rajeshwari Pharm –D 4th year, Runners: Lahari Chowdary B-Pharm 4th Year Sec-B.

We concluded this day by Formation of Rx by Mrips Students in front of MRIPS gate.
Deepika from MRIPS Pharm D III year won in 2K run at 61st National Pharmacy week.

J. Akanksha,
B-Pharm 4A

World Pharmacists Day-2022-Review

Introduction

In this article, we will know about the history, theme and significance of world Pharmacists Day 2022.

World Pharmacists Day 2022: On September 25, all Pharmacists, Pharmaceutical who work in this industry are honored on World Pharmacists Day. In order to recognize the vital role that pharmacists play in enhancing global health outcomes, World Pharmacists Day is not only a pleasant occasion but also a significant holiday. Various governmental and nongovernmental groups host events and activities to commemorate the day.

History

A pharmacist is responsible for many essential tasks. They are responsible for finding the proper medication for patients, administering replenishment and refilling of medications and monitoring pharmaceutical expiration dates. It is most likely for this reason that the International Pharmaceutical Federation (FIP) created this day to assist the network of pharmacists and the growth of this field .The day's creators claimed that they wished to pay tribute to the organization that was doing so much for pharmacists .For this reason, they chose September 25, 1912, the day the FIP was founded for celebrating World Pharmacist day.



Theme

The theme of World Pharmacists Day 2022 is "Pharmacy united in action for a healthier world." The purpose of this year's theme is to highlight pharmacy's beneficial effects on the health all around the world and to further strengthen profession-wide unity.

Significance

Around the world, four (4) million people work in the field. World Pharmacists Day highlights the contribution that pharmacist make in advancing global health. To raise public knowledge about pharmacists and their roles is the shared global objective of World Pharmacists and their role is the shared global objective of the World Pharmacists Day.

Conclusion

In my opinion the goal of World Pharmacists Day is to promote awareness of Pharmacist contributions to global health and to inspire people all around the world to recognize the value they contribute to society. Pay gratitude towards the pharmacists.



Shraddha from Pharm D III year won in Fashion show at 61st National Pharmacy Week.
Submitted by: V Chandana.

Clinical Pharmacists

They includes /promotes patient care with specialized therapeutic knowledge about medications usage. Now a day's clinical pharmacist often works with physicians, nurses as multidisciplinary team.

Definition of Clinical Pharmacy

It is the branch of pharmacy that deals with the involvement of the provision of patient care with the use of medications and optimization of patient health outcomes.

Role of Clinical Pharmacists

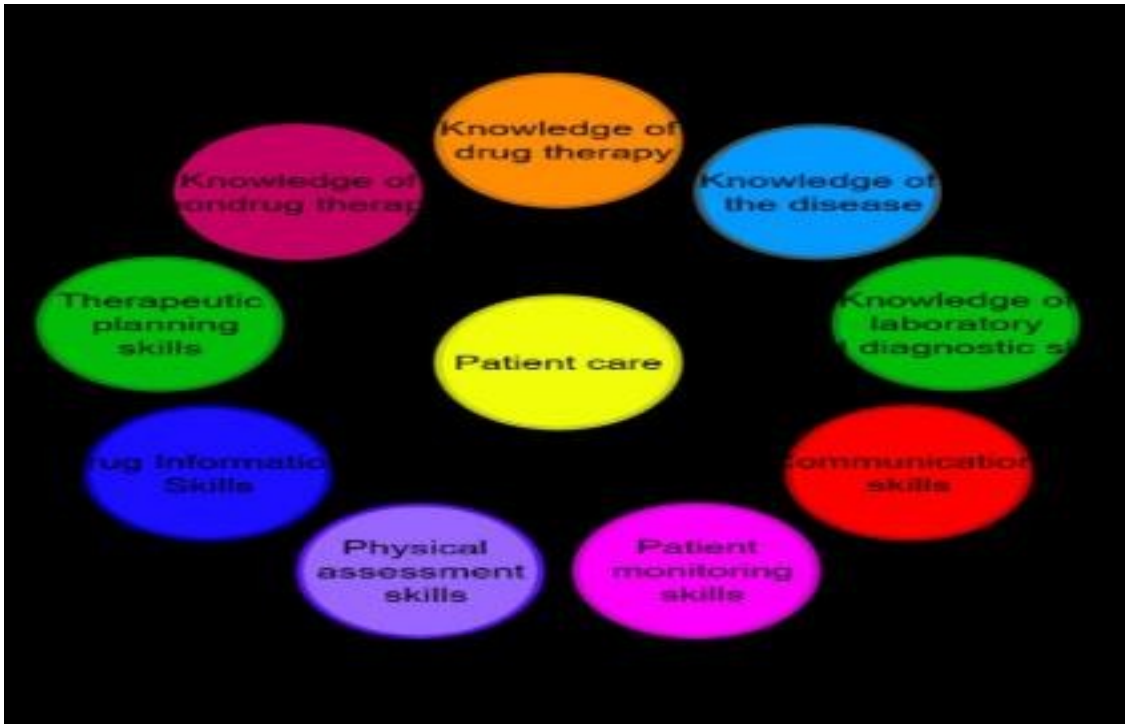
Due to the intervention of the pharmacists there has been a great decrease of work load and stress on the shoulders of the doctor.

- recognizing untreated health conditions
- monitoring the progress of the patient,
- advising best way to take medications
- Evaluating drugs and medication therapy,

The roles of the clinical pharmacists are represented in the below diagram

Clinical pharmacists can help to solve &prevent Drug related problems (DRP'S) through appropriate interventions. In the medicine department at the military hospital, Omudurman, Sudan shows a total of 100 files belonging to patients admitted between September 2018-19 were analyzed in this study according to specific criteria ,of which 160 clinical pharmacists 'intervention were made, and 152 DRP's were identified .The most common DRP found was untreated indication of 32% and 14.5% of sub therapeutic dose and drug interactions accounting 12%.The acceptance of intervening pharmacist was found to be 57% and remaining 41% were not accepted.

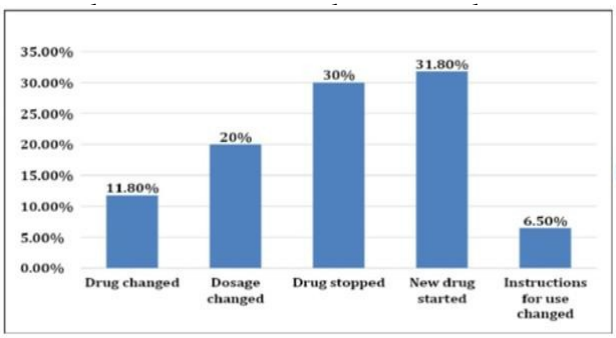
The above study shows us the participation of clinical pharmacists in the medical ward has a positive impact in the patient welfare and as well as society welfare.



Medication related problem by clinical pharmacists

- Zero knowledge about untreated indications of patients
- Improper drug selection
- Improper drug interactions
- Adverse drug reaction due to over doses
- Medication use without indication
- Medication failure to receive (like dialysis)

Due to the negligence and some the lack of information from the patient and sometimes due to over work load the



Minimization

- Correct collaboration between pharmacists and patients
- Noting &giving correct drug information
- Taking note about the medical history of patient
- Therapeutic drug monitoring
- Correct patient counselling
- By teaching & training medical and paramedical staff & by participation in drug utilization studies.

Conclusion

Clinical pharmacists are the brains of science and practices of rational use of medications, where they are oriented to patient care, promoting health, rationalizing medication therapy and wellness of people.

U.Jayasurya.

B.Pharm Iyr

Malla Reddy Institute of Pharmaceutical Sciences

Delivering Insulin in a Pill
Are you tired of using insulin injections? Here's the hope....

As we know Diabetes is a chronic condition that affects the way the body processes blood glucose. In order to control the blood glucose levels usually insulin injections are given. Insulin dosage can vary daily based on your diet, lifestyle, exercise and certain medications.

Barriers faced by patients using insulin:

- Redness, swelling, and itching at site of injection.
- Skin thickening or little depression in the skin.
- Weight gain.
- Constipation.

Insulin Pills

Many pharmaceutical companies have sought to provide diabetes patients with the opportunity to eliminate the discomfort of needles for a very long time.Several companies are competing to produce insulin pills, also known as insulin tablets, as a reliable substitute for insulin injections. Sublingual insulin formulation has also been attempted for clinical trial but failed as most of it gets wasted in the stomach.Clinical trials for these medications are still in their early stages. However, a drug maker has yet to success in encapsulating insulin into a one- off dose, easily swallowed like any other tablet.



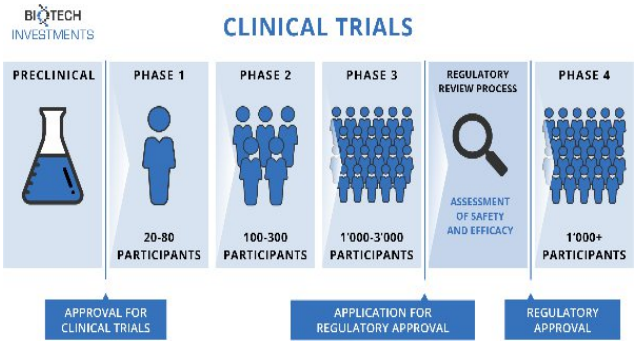
Why Do You Think Insulin Tablet Has Not Been Discovered Yet, Even When Insulin Injections Are Showing Many Adverse effects? Here's the reason...

Oral medication administration is particularly challenging for insulin. It is a protein that breaks down in the stomach and small intestine, which makes it nearly impossible to develop an effective oral delivery system.

Massive oral insulin attempts in the past, such as the inhalable insulin Exubera, have failed. However, major drug makers are thought to be working on the insulin pill.

Advances In Developing Insulin Pills

Protein engineering is being used to advance the insulin pull.It is believed that the researchers are determining which enzymes assault the chemical and how they do so. The insulin pill should eventually be able to pass through the stomach undamaged.



The hypothesis is excellent for diabetics. Delivery of insulin through the stomach would send the vital hormone to the liverwhere it may work similarly to endogenous insulin. Insulin tablets in development getsabsorbed after half an hour and can last about 2-4 hours long. Insulin pills may make managing diabetes much safer and more convenient in the future, as well as eradicating widespread needle phobia.

Preclinical Trial:

Researchers have found that rats absorb insulin from the most recent version of their oral tablets in the same way as insulin is injected. Even after 2 hours of delivery no amount of insulin was found in the stomach of rats. These exciting results show that we are on the right track in developing insulin formulations that will no longer need to be injected before every meal, improving the quality of life as well as mental health of more than 9 million diabetics around the world.

Inspiration behind Insulin Tablets:

Dr Anubhav Pratap Singh the principal investigator from the faculty of land and food systems explains inspiration behind non injectable insulin comes from his diabetic father who has been injecting insulin 3-4 times a day since 15 years.

Conclusion:

Insulin tablets have entered into clinical trials and developing them could be more sustainable, cost effective and accessible. Transporting the tablets would also be easier who currently have to think about keeping their doses cool.

Saakshi Bhatt
Pharm D 5YR

WHO Bans 4 India-Made Cough Syrups

The following syrup solutions were banned in India in 2022. Promethazine oral solution BP Kofexmalin Baby cough syrup. MaKOFF BABY syrup MaGrip n cold. These 4 medicines were produced by Maiden Pharmaceuticals Ltd. These syrups are used for treatment of cold and cough in Infants. WHO issues alert, says probing Indian cough syrup after 66 children die in Gambia.

Why Banned In India?

The 4 medicines didn't pass the test as they have unacceptable amounts of diethylene glycol and ethylene glycol as contaminants.

Where is deg used generally?

Commonly found in cigarettes, anti freeze, lubricants, cosmetics and wallpaper strippers.

Why Is Deg Dangerous?

DEG is considered Toxic for human body as it causes loss of kidney and neurological activity when consumed. 10DEG mass poisoning has occurred over last 70 years. These mass poisoning were all caused by DEG-contaminated liquid or ointment medications.

The chemical tastes sweet and is water insoluble.

WHO Clarified?

Haryana's health minister Anil Vij samples of four cough syrup were sent to the central drug laboratory in Kolkata for examination. The ministry also stated that the results of tests would 'guide the further course of action as

well as bring clarity on the inputs received by WHO' The union ministry of health on Thursday declared that four cough syrups which were linked with the death of the children in Gambia were meant for export, but not for the treatment in India. According to WHO, Maiden pharmaceuticals hasn't given the proper proofs or evidences for the safety of the medicines.

- Abdominal pain
- Vomiting
- Diarrhoea
- Inability to pass urine
- Headache
- Altered mental state





M. Lahari Chowdary
B Pharm 4th yr

Vaccines Used For Pediatrics

1. **Avaxim Vaccine:** avaxim is indicated for active immunisation against infection caused by hepatitis - A virus in susceptible adult and adolescents of 16 yr of age and above.
2. **Be Td Vaccine**: 0.5 ml is an immunizing agent that contain" Diphtheria Toxoid and Tetanus Toxoid". It is used to prevent diphtheria and tetanus it works by exposing the body to small doses of bacteria and or protein from the bacteria does providing immunity or resistance against diphtheria and tetanus diseases.
3. **Havrix Vaccine**: is indicated for active immunization against diseases caused by hepatitis -A virus (HAV) havrix is approved for use in person 12 months of age and older primary immunization should be administrated at least two weeks prior to expected exposure to (HAV).
4. **REVAC-B Vaccine**: REVAC-B vaccine prevent hepatitis-b disease. Hepatitis - B disease is a liver disease caused by hepatitis- b viruses. Short-term illness or acute hepatitis-b virus develops within the first 6th months after exposure to virus.
5. **Infanrix Hexa**: INFANRIX -HEXA vaccine prevent six diseases: diphtheria, tetanus, pertussis (whooping cough), hepatitis B, poliomyelitis (polio) and Haemophilus influenzae type b (Hib). The vaccine works by causing the body to produce its own protection (antibodies) against these diseases.
6. **Pentaxim Vaccine**: Pentaxim Vaccines are used to protect against infectious diseases. When PENTAXIM is injected, the body's natural defenses develop a protection against those diseases.
7. **Tetraxim Vaccine**: Pentaxim vaccine Prevention of Tetanus tetanus is a serious bacterial infection that affects the nervous system and causes muscles throughout the body to become stiff and tighten. Tetraxim Vaccine is a vaccine that helps prevent tetanus. It helps the immune system to produce antibodies to fight against Tetanus infection.
8. **EASY-SIX:** Easy Six Vaccine is a combination of seven vaccines. They help develop immunity by initiating a mild infection. This type of infection does not cause illness but stimulates the body's immune system to produce antibodies (proteins) to protect against any future infections.
9. **Trisevac vaccine**: Tresivac PFS Vaccine 0.5 ml is a vaccine or an immunizing agent which is made from a live, and weakened or attenuated virus. It helps to provide protection by stimulating the immune system to form antibodies that act against the measles, mumps and rubella viruses.

10. Gardasil vaccine: Gardasil works by stimulating the immune system to attack HPV types 6, 11, 16, and 18. Once Gardasil is administered, the body's immune system recognizes the viral proteins in Gardasil as foreign, and develops antibodies against them, thus providing immunity from future infections.

11. Prevenar vaccine : Prevenar 13 is used to protect children aged between six weeks and 17 years against invasive disease, pneumonia (infection of the lungs) and acute otitis media (infection of the middle ear) caused by S. pneumoniae. It is also used to protect adults and the elderly against invasive disease and pneumonia.

12. Typbar - Tov: TYPBAR-TCV is a vaccine used for the prevention of Typhoid. Typhoid is a bacterial infection caused by a Gram-negative bacterium Salmonella typhi species. Typhoid infection is characterized by high and prolonged fever, fatigue, loss of hunger, abdominal pain and rash.

13. Flugrix -Tetra : Fluarix Tetra is indicated for active immunisation of adults and children from 6 months of age for the prevention of influenza disease caused by the two influenza A virus subtypes and the two influenza B virus lineages contained in the vaccine.

14. Rotavirus vaccine: Rotavirus vaccine can prevent rotavirus disease. Rotavirus commonly causes severe, watery diarrhoea, mostly in babies and young children. Vomiting and fever are also common in babies with rotavirus. Children may become dehydrated and need to be hospitalized and can even die.

15. Menova vaccine: Protects against the bacteria that cause meningococcal disease. Protects your child from infections of the lining of the brain and spinal cord, as well as bloodstream infections. Protects your child from long -term disabilities that often come with surviving meningococcal disease.

16. Biopolio vaccine: Biopolio B1/3 Oral Vaccine is used in the prevention of polio. It protects against poliomyelitis causing poliovirus. Polio or poliomyelitis is a crippling and potentially deadly infectious disease. The virus spreads from person to person and can invade an infected person's brain and spinal cord, causing paralysis.

17. Menactra vaccine: Menactra vaccine prevent certain serious, sometimes fatal, bacterial infections (meningitis, meningococcaemia). This infection may cause severe problems (hearingloss, brain/nerve problems, paralysis, blindness, seizures, loss of limbs) even with antibiotic treatment.

18. Jeev vaccine: JEEVTM is indicated for active immunization against Japanese encephalitis in adults and children. The vaccine should be administered by intramuscular route. The preferred sites are antero lateral aspect of the thigh for children or the deltoid muscle of upper arm for adults.

19. Pneumosil vaccine: Pneumosil Vaccine 0.5 ml is primarily used to treat pneumococcal infections like an infection in the lungs, brains, blood and inner ear. It helps to develop immunity by starting a mild infection.

20. Rotasil vaccine ROTASIIL-Liquid is indicated for active immunization of healthy infants from the age of 6 weeks for the prevention of gastroenteritis due to rotavirus infection when administered as a 3-dose series. The three dose regimen should be completed by one year of age.

Tabassum Sultana
Pharm D 5th yr

Pharmaceutical Industry and Drug Development

The pharmaceutical industry has a number of unusual characteristics that make it very different from what people normally think of as industry. It is also an industry replete with contradictions; for example, despite the undisputed fact that for over a century the industry has made a major contributions to human wellbeing and the reduction of ill health and suffering, it is still regularly identified by the public in opinion surveys as one of the least trusted industries, often being compared un-favorably to the nuclear industry. It is undoubtedly one of the riskiest businesses in which to nuclear industry.

Historical background:

Human beings have been using "drugs" to treat illness and disease for more than 3000 years. Fewdozen drugs of plant and animal origin were already recorded in China around 1100 BCE and by the end of the 16th century the Chinese were using at least 1900 different remedies.3 Today Traditional Chinese Medicine recognizes more than 13 000 drugs. Outside China, the first known pharmacopeia, the five volumes of Development material Medica, were written in the first century CE by Dioscorides, a Greekbotanist.4 Herbal practitioners of this early period have been identified in many indigenous populations across the globe, such as North and South America 5 India6 and Australia.7 In the later mediaeval period, herbalism flourished in both the Islamic8 and Christian parts of the world. This tradition continued up to the 17thcentury, encompassing the work of Paracelsus 0 in Switzerland andCulpepper11 in England. Culpepper's work, the English Physician, published in 1652, was one of the first English language pharmacopeia 12 until the 18thcentury the use of herbal medicines had been entirely based on empiricism: practitioners knew what worked but not why or however n the late 18thcentury the foundations of pharmacology, the study of the actions of drugs and how they exert their effects, began to emerge William Withering13 in the 1780s was one of the first people to study and isolate the active ingredient in a herbal remedy. He isolated digitalis from the foxglove, describing its extraction from various parts of the plant, its subsequent effects and the optimum way of using it to treat patients. The science of pharmacology developed slowly during the next century and Oswald Schmiedeberg (1838–1921) is now generally recognized as the founder of modern pharmacology.14 In1872 he became professor of pharmacology at the University of Strassburg in Austria where his studied the pharmacology of chloroform and chloral hydrate and in 1878 published the classic text, Outline of Pharmacology.







Pharmaceutical industries:

As far most people are concerned, the Pharmaceutical Industry consists of a small number of very large multinational corporations with household names such as AstraZeneca, GlaxoSmithKline (GSK), Eli Lilly, Merck, Novartis is, Roche and Pfizer. These companies are collectively known as Big pharma phrase that is intended to be prejudicial.46 However, this is very misleading. If you ask a member of the public if they have heard of Teva or Mylan there is a high probability that they will have never heard of either of them despite the fact that Teva is the 11th largest pharmaceutical company in the world47 and may very well be supplying the medicine that they are current taking. The pharmaceutical industry in some ways resembles an iceberg. These very well-known companies, which are loosely defined as research-based Pharma companies, represent ca. 40% of the market interms of finance;47 however, they correspond to only a small fraction of the industry as a whole, with490% of pharmaceutical companies, known as generic companies, being largely invisible to the general public. In turn, these generic companies produce the vast majority of all pharmaceuticals sold. In 201384% of the 4000 million prescriptions issued in the USA were filled by generics. This asymmetric situation is caused by the patents system: the large research-pharmaceutical companies invest many billions of dollars searching for new industry.

Conclusion: Increasing regulation is leading to additional costs and longer development times with consequently reduced times to patent expiry. Increasing risk aversion by executive management teams is contributing to a slowdown in the appearance of novel pharmaceuticals reducing risk tolerance in patient populations and regulatory bodies is leading to a lower success rate for marketing authorization approvals.

Cost pressures within national health services are leading to progressive downward pressure market penetration by generics is increasing rapidly; many people consider that the current research pharmaceutical business model is no longer sustainable, but no-one has yet come up with a increasing one.

P. Prabhu

AVOCADO
A Best Nutraceutical During Pregnancy – God's Pharmacy is Amazing

Introduction

Avocado is a fruit which targets the health and function of the womb and cervix of the female. They look just like these organs. Avocado help women balance hormones, shed unwanted birth weight and deter cervical cancers. It takes exactly nine months to grow an Avocado from blossom to ripened fruit, just as a baby takes to born.

Scientific Name: *Persia AmericanaMill*

Family: Lauraceae

Cultivation: It is native to America and is cultivated from Ecuador to the Mediterranean climate. The avocado is grown mostly in California, Florida, Mexico, Guatemala, Cuba, Antilles, Brazil & Spain.



Benefits of eating Avocado during pregnancy Supporting foetal health: Folate is important for a healthy pregnancy. Adequate intake reduces the risk of miscarriage and neural tube abnormalities.

Avocados are full of healthy fat: Healthy fat is very important during pregnancy; extra calories are necessary for the growth of the foetus, and healthy fats are a good way of gaining those calories. Healthy fats in this case, monosaturated fats will help mother's fat intake. Avocados also include omega 3 and omega 6 fatty acids both of which are incredibly beneficial for pregnant women and her unborn child. It also improves sleep quality.

They can aid digestion: It isn't uncommon to find yourself with stomach illness and constipation during pregnancy. Avocados are rich in fibre and magnesium which aids digestion and eases bowel movement.

They can aid digestion: It isn't uncommon to find yourself with stomach illness and constipation during pregnancy. Avocados are rich in fibre and magnesium which aids digestion and eases bowel movement.

They can help with morning sickness: Morning sickness can be debilitating in the early stages of pregnancy. Avocados are full of Vitamin C and B6 which can alleviate the symptoms of morning sickness and help pregnant women body to better absorb the vitamins found in fruits and vegetables.

Avocados are rich in antioxidants: Antioxidants are necessary compounds to protect against cellular damage. They are particularly rich in the antioxidant carotenoid lutein, a source for eye development and brain function with the foetus. Eating more avocados beyond pregnancy and into the phase of breast feeding, the mother can also increase the carotenoid level of her breast milk; a key component to a baby's growth and development.

Pregnant women can become iron deficient which can lead to anaemia. Avocados contain high levels of iron which is necessary to maintain during pregnancy. They contain more potassium than bananas. Potassium and calcium can help ease leg cramping.

They can boost foetal brain development: Single cup of Avocado contain 22 mg of choline, the necessary amount needed for foetal brain and nerve development.

Avocados lower the risk of excessive weight gain: They are high in dietary fibre and this means they can actually lower the chances of unwanted weight gain. Their high fibre, healthy fat and nutrient content can also create feelings of fullness, enabling pregnant women to stay energized throughout the day while maintaining healthy weight. Avocados are low in carbs and rich in fibre and healthy fats. The high fibre content of Avocado reduces the risk of Gestational Diabetes.

Amount of Avocado to be taken: Half an avocado (100 grams) will deliver about 14 percent of daily folate needs during pregnancy.

Side Effects of Overconsumption of Avocado: Laxative like effect. In case of Avocado intolerance – bloating, gas, or an upset stomach up to 48 hours.

Conclusion: Avocado is a fruit which resembles and target the health and function of the womb and cervix of the female and it takes exactly nine months to grow an avocado from blossom to ripened fruit, just as a baby takes to be born. God has created health benefits in the form of nutraceuticals which resembles the organs. I hope that each and every person in the world should be aware of God's Pharmacy is amazing.

Balusupati Anjali Venkata Lakshmi,
Pharm. D 4th Yr.

Novel Drug Delivery System of Herbals

Plants are natural remedies .They have been used by human beings since ancient times. Plants are used for finding herbal medicaments and to bring them in market through a suitable drug delivery system for human being. The basic idea behind it is to treat each diseases which is hidden in nature. NDDS help to development of herbal novel drug delivery system by using advance technique protection from toxicity, enhancement stability ,increase bioavailability of herbal formulation, protection from physical and chemical degradation.

Herbal formulation means dosage forms which consist of one or more herbs. Which are used to provide nutritional, cosmetic, benefits. Whole plant is used for herbal formulation. Herbal drug consist of many active constituents which provides/helps in synergistic action and increase therapeutic value. It helps in sustained delivery& enhance stability.

Development In Novel Drug Delivery systems Of Herbals Are:

- Phytosome ,proniosome
- Transdermal drug delivery system
- Dendrimers
- Solid lipid nano particle
- Liquid crystals, Hydrogels
- Liposome, emulsions
- Nanoparticle, ethosomes
- Microsphere
- Niosomes

Phytosome:

Phyto means plant and some means cell like. Phosphtidyl choline results in new drug delivery system . It increases absorption of active constituents.

Liposomes:

It consists of bi layered vesicles.

It has a high bioavailability. Nanoparticles:

It deal with particle size in nanometers.

It helps in delivering the drug formulation directly to site of action.

Emulsions:

It is a biphasic system in which one phase is intimately disperse in other phase in the form of minute droplets .one phase is aqueous and other phase is oily.

Microsphere:

It comprises of small spherical particles 1µ to 1000µm. It is manufactured from natural and synthetic material. They are classified as biodegradable and non biodegradable

Ethosomes:

It developed by mixture of phospholipids and high concentrations of ethanol. Improve drug delivery into deeper layer of skin and blood circulation.

Solid Lipid Nanoparticle:

It is a colloidal carrier used especially for delivery of lipophilic compounds.

Niosome:

They are multilamellar vesicles formed from non-ionic surfactants of alkyl or dialkyl polyglycol.

Conclusion:

Novel drug delivery system not only reduces the repeated administration but also it is used to enhance therapeutic value by reducing toxicity and enhance bioavailability on herbal drug extensive research is going on to incorporate them in novel drug delivery system.

Manasa Kamboja,
B-Pharm 4A

Blue light exposure & its effects on Biological clock in humans Abstract

The modern hectic lifestyle changes with increased blue light exposure from electronic screens often leads to desensitization of biological clock due to disruptions in circadian rhythms. This affects the sleep mechanism causing sleep dysfunctions

Introduction

An electronic screen like television, smartphones, tablets, computers, florescent bulbs and led lights emitting blue light does affect both your alertness and sleep at night. Previously blue light exposure from sun throughout the day ,for instance helps to set the biological clock of humans, later due to increased artificial blue light in the nights deceives the brain thinking it's day time in the evening or late night by suppressing sleep mechanism.

Discussion

Blue light is omnipresent in our lifestyle, blue light is a part of visible light spectrum which have unique effects on bodies alertness, endocrine secretions and sleep cycles circadian clock which has internally driven 24hrs rhythm synchronized with sun light and dark cycle. Circadian rhythms help our body know when to carry essential functions. Light is the important factor that aligns with this. The circadian biological clock is controlled by a part of brain called suprachiasmatic nucleus (SCN) a group of cells in hypothalamus that responds to light and dark signals. Blue light also suppresses the melatonin secretion. Darkness prompts pineal gland to produce melatonin while light causes suppression. Melatonin levels are highest at night but due to more exposure to blue light closure to bedtime tends to indeed make sleep worse. Melatonin supplements are usually given to treat sleep disorders like insomnia.

Conclusion

Light exposure in addition to melatonin suppression also effects thesleep wakefulness cycle. Decreasing exposure to light in particular is the only way to help our body naturally prepare for sleep.

K. Preethi
Pharm D, 3 Yr

Increased Risk of Vitamin – B12 Deficiency Due to the Long Term Use of Metformin

Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Insulin is a hormone that regulates blood glucose. Hyperglycaemia, also called raised blood glucose or raised blood sugar, is a common effect of uncontrolled diabetes and over time leads to serious damage to many of the body's systems, especially the nerves and blood vessels. Type 2 diabetes (formerly called non-insulin-dependent, or adult- onset) results from the body's ineffective use of insulin.

Type 1 diabetes (previously known as insulin-dependent, juvenile, or childhood-onset) is characterized by deficient insulin production and requires daily administration of insulin. Metformin is a medicine used together with diet to lower high blood sugar levels in patients with type 2 diabetes. Metformin works by lowering the amount of glucose absorbed from the intestines, decreasing how much glucose is made in the liver, and improving insulin sensitivity.

Discussion

A study was done for 13 years between metformin 850 mg twice daily vs placebo, and open-label metformin in the metformin group. Low vitamin B12 was defined as ≤ 203 pg/mL, and borderline-low levels were defined as between 204 and 298 pg/mL, inclusive. Anaemia was defined as haemoglobin < 12 g/dL or haematocrit < 36% (females) and haemoglobin < 13 g/dL or haematocrit < 40% (males).

The study found that low B12 occurred more often in metformin thanplacebo at 5 years but not at 13 years. Combined low and borderline-low B12 (≤ 298 pg/mL) was more common in metformin at 5 years and 13 years. Years of metformin use were associated with an increased risk of B12 deficiency. Anaemia prevalence was higher in metformin but did not differ by B12 status.

Neuropathy prevalence was higher in metformin with low B12 levels. The low levels of vitamin b12 are caused due to the following reasons:-

• Alterations in small bowel motility which stimulate bacterial overgrowth and consequential vitamin B12 deficiency

•Competitive inhibition or inactivation of vitamin B12 absorption.

•Alterations in intrinsic factor (IF) levels and interaction with the cubulin endocytic receptor.

•Inhibition of the calcium-dependent absorption of the vitamin B12-IF complex at the terminal ileum.

Management

In order to avoid vitamin b12 deficiency the patient's on metformin therapy are advised to take vitamin b12 supplements

Conclusion

Long-term use of metformin was associated with biochemical B12 deficiency and anaemia. Routine testing of vitamin B12 levels in metformin-treated patients should be considered.

P. Varsha
Pharm 5 Yr



First Line Drug of Tuberculosis: Isoniazid

Isoniazid (INH) was the first synthetic medication to mediate the bactericidal death of MycobacteriumTB, marking a significant advancement in medicine. INH continues to be a key component of

Contemporary TB treatment today. The medication has a brief half-life of 1–4 hours depending on therate of metabolism. All three small intestine sections and the location of intramuscular injection had anoticeable absorption of INH. Acetylation and dehydrazination are the key processes in the liver thatrender INH inactive; the amount of acetylation is genetically predetermined and subject to individualvariation. Hepatotoxicity and peripheral neuritis are caused by long-term, continuous INH therapy.Therefore, having a medication formulation with controlled INH release is crucial, especially in the smallintestine.

The Discovery of Isoniazid:

Serendipity And Rational Drug Discover:

Horace Warpole first used the term "SERENDIPITY" in 1754, and he did so in reference to the Persianfolk tale" The Three Princess of Serendip" The heroes of this novel made their discoveries by accident,sagacity, and serendipity, which is a realistic representation of how many scientific discoveries aremade; INH being a prime example. Ernest Huant found that several of his cancer patients who were also infected with M. tuberculosis had dramatically cleansed their TB lesions while testing whethernicotinamide, a component of niacin (vitamin -B3), may lessen the negative effects of ionising radiationon cancer patient Individuals who had M. Tuberculosis infections had significantly reduced TB lesions.

Parallel to this research, French physician Vital Chorine reported that high dosages of nicotinamide (1g/kg) halted the progression of M. tuberculosis in infected guinea pigs.

Nicotinamide activity was not a result of its vitamin activity; rather, it was specific to mycobacteria.

Herbert Fox at Hoffmann-La Roche screened substances that resembled the niacin structure afterlearning that niacin might have anti-TB effects. This finally led to the discovery of INH. At the same time, two other pharmaceutical grouped led by Domagk at Bayer and Bernstein at the Squibb institute for Medical research reported the activity of INH against M. tuberculosis. Remarkably, this was the first drug in history with superb and specific bactericidal activity in vitro and in vivo against M. tuberculosis.

Essentiality

The bacteria that have infiltrated the lung are what cause tuberculosis (TB). TB germs are incredibly tiny living things that can be eliminated by TB medications and are spread through coughing. Patients with TB must take a combination of four medications for two months and then two drugs for another four months in order to eradicate these TB bacteria. Patients take rifampicin, isoniazid, ethambutol, and pyrazinamide for the first two months. Patients then receive only isoniazid and rifampicin for a further 4months, for a total of 6 months of treatment. In order to cure TB more quickly in the future, the researchers decided to try a novel drug combination in patient A5307.

According to studies done on animals, isoniazid, one of the four medications used to treat tuberculosis, only has a short half-life and may not be necessary to kill the TB germs after the first two doses. After that, its benefits start to fade to the point that it could possibly conflict with other medications. The goal of the study was to determine whether treating TB more quickly would require discontinuing isoniazid earlier or switching to a different antibiotic, moxifloxacin. This trial was the first human testing of this kind of regimen without isoniazid. The researchers might then try to see whether they could possibly develop a better tuberculosis medication in the future if they could demonstrate that isoniazid stops working after a few days.

Mechanism of Action:

Isoniazid is a prodrug that the catalase-peroxidase enzyme katG activates to produce a number ofradicals and adducts that prevent the mycobacterium from producing the mycolic acids necessary forthe construction of its cell wall. This activity makes INH more likely to be a powerful bactericidalsubstance. Additionally, it seems to work in concert with other species made by katG and other drugsused to treat TB.

However, resistance to isoniazid therapy may result from mutations in the katG, inhA, KasA, and ahpCgenes. When isoniazid is used as the sole form of therapy, this resistance in M. tuberculosis appearssooner.

Pharmacokinetics:

1. *Absorption:* Following oral or intramuscular administration, there is a rapid and full absorption.
2. *Time of Peak Plasma Concentration:* 1 To 2 Hours.
3. *Distribution:* Immediately into every bodily tissue compartment, including the cerebrospinal fluid
4. *Plasma Protien Binding:* 10% to 15%.
5. *Metabolism:* largely metabolised in the liver through acetylation and dehydrogenation
6. *Excretion:* The majority of the medication and its metabolites are eliminated in the urine, with smaller amounts exiting the body through the faces and saliva.
7. *Administration :Dosage Forms :* Isoniazid formulations are available as tablets (100mg and 300mg) , syrup(50mg/5ml),or through IV or IM injection(100mg/ml).
8. *Dose:* In adults ,5mg/kg upto 300 mg daily as a single dose daily ,or 15mg/kg up to 900 mg per week is recommended.
9. *Adverse Effects:* There have been a variety of adverse effects reported with isoniazid use, with most being transient and low-grade. They include gastrointestinal effect, rashes/pruritis, peripheral neuropathy.
10. The risk may increase in patients with diabetes, HIV, nutritional deficiency renal failure, alcoholism, and in women who are Pregnant or breastfeeding.

Conclusion

The complicated roles that drug activation, target over-expression, and target binding play were revealed by the research of the mechanisms of INH action and resistance. Inha anenzyme involved in the biosynthesis of mycolic acids, an essential component of mycobacterial cell death, is inhibited by the prodrug INH by binding to it. To this day, tuberculosis (TB) remains a major killer in the developing world with the potential to give rise to drug- resistant organisms that could lead to untreatable epidemics. The discovery of INH bactericidal activity against *M. tuberculosis* provided a central component of multi-drug therapy to cure M. tuberculosis-infected individuals. New information about how to abbreviate TB treatment will be revealed by further investigation of the genes and metabolic processes involved in producing INH persister cells. Understanding and removing the persistence phenomena will undoubtedly be apart of research projects aimed at sterilizing the tubercle bacillus.

Deepika Bindu Burjukindi &
Dimpu Sai Vinusha Doddi
B-Pharm 4Yr



Antimicrobial Resistance
The Silent Killer

The twentieth century is referred to as the "Super Bugs Era." As the consumption of antimicrobials has skyrocketed around the world, antimicrobial resistance has emerged as a major health concern. According to the World Health Organization, antibiotic resistance would be responsible for 10 million deaths by 2050; at present, it is responsible for 1.27 million deaths annually. Antibiotic consumption in LMICs (Low and Middle Income Countries) like India has increased by 40% in the last decade. Worldwide, patient mortality and morbidity rise when antimicrobials are used excessively. In 2010, 12.9 x 109 units were consumed the most in India. In India, the rate of resistance to polymyxins is high, at 99%-100%, while the rate of resistance to aminopenicillins is much lower, at 83%-90%.The AMS is widely recognized as an integral corporate strategy for halting the spread of AMR.
In India, where the deployment of AMS teams in healthcare organizations is still in its infancy, pharmacists play a pivotal role in ensuring the implementation of these guidelines, updating their knowledge of resistant patients in tertiary care hospitals, and limiting the overuse of antimicrobials through their clinical expertise and the establishment of an infectious disease service. An important part of a pharmacist's job is to educate patients and other medical professionals about the risks of using antibiotics inappropriately. The World Health Organization has pushed for prescription metrics for antimicrobial drugs and started the AWARE antimicrobial classification system.

Inappropriate and unnecessary antibiotic use are major contributors to antibiotic resistance. An immediate response is required; one that slows the rise of antibiotic-resistant infections, speeds up the discovery of new antibiotics and treatment options, and extends the useful life of existing antibiotics. Orthopaedic surgeons and orthopaedic researchers may play important roles in these kinds of actions to reduce the threat of antibiotic resistance.

However, the actions we take will only last if we have a good understanding of the relative roles of many factors, including patients and implants, microorganisms, orthopaedic surgeons and staff, and clinical settings. They consist of the following.
A task to set up resistance monitoring, keeping an eye on things and trading information that can help the improvement of antibiotic prescribing practices by orthopaedic surgeons through the development of more comprehensive databases of evidence-based use.
Explore the possibilities of individualized medicine. Unfortunately, patients with orthopaedic infections are often treated without knowing how antibiotic-resistant the bacteria are or based on a full review of their medical history.
Orthopaedic specialists may be better capable of instructing the subsequent generation of orthopaedic surgeons if they are required to further promote practice and promote antimicrobial stewardship - structured guidance and assistance for responsible selection and utilization of antibiotics.
In addition to working well as a team, communicating well, and taking responsibility, here are also responsibilities to make and follow national and international rules and guidelines for using antibiotics. The development of cutting-edge diagnostic tools for identifying and characterization of genes or microbes that have become resistant to antibiotics is likely to influence their prescribing of a more rational use of antibiotics, which is important because diagnostic tests are crucial to the management of infectious diseases and combating the rise in antibiotic resistance.
Developing innovative antibiotic combinations that may have synergistic antibacterial effects and which are less likely to trigger resistance must be supported by evidence. Adhoc combinations rather than antibiotics are preferred.

Conclusion

Threats presented around the globe by superbugs Adhering to ASP recommendations, putting them into practice based on hospital resistance and

sensitivity patterns, and monitoring the execution of guidelines requires annual updates in order to be effective, and presents a significant burden to healthcare facilities. Starting with a series of regional seminars, the ICMR is working to form AMS teams at healthcare facilities around the country. Even with these efforts, a more thorough plan for dealing with AMR and introducing AMS still needs to be made.

Rishitha Morla
B. Pharm 4Yr



STOP SMOKING!
WHY?

Smoking have estimated that around 1 million deaths a year in India will be attributable to smoking by the early 2010s. Smoking causes cancer, heart disease, stroke, lung diseases, diabetes, and chronic obstructive pulmonary disease (COPD), which includes emphysema and chronic bronchitis. Smoking also increases risk for tuberculosis, certain eye diseases, and problems of the immune system, including rheumatoid arthritis. Second hand(passive) smoke exposure contributes to approximately 41,000 deaths among non-smoking adults and 400 deaths in infants each year. Second hand smoke causes stroke, lung cancer, and coronary heart disease in adults. Children who are exposed to second hand smoke are at increased risk for sudden infant death syndrome, acute respiratory infections, middle ear disease, more severe asthma, respiratory symptoms, and slowed lung growth.

Estimates show smoking increases the risk:

- For coronary heart disease by 2 to 4 times1,6
- For stroke by 2 to 4 times1 Of men developing lung cancer by 25 times1 Of women developing lung cancer by 25.7 times1

- Smoking causes diminished overall health, increased absenteeism from work, and increased health care utilization and cost.

Smoking can cause cancer almost anywhere in your body

- Bladder
- Blood (acute myeloid leukaemia)
- Cervix
- Colon and rectum (colorectal)
- Oesophagus
- Kidney and ureter
- Larynx
- Liver
- Oropharynx (includes parts of the throat, tongue, soft palate, and the tonsils)
- Pancreas
- Trachea, bronchus, and lungs

Smoking can make it harder for a woman to become pregnant. It can also affect her baby's health before and after birth

Smoking increases risks for :

- Preterm (early) delivery
- Stillbirth (death of the baby before birth)
- Low birth weight
- Sudden infant death syndrome (known as SIDS or crib death)
- Ectopic pregnancy
- Orofacial clefts in infants
- Smoking can also affect men's sperm, which can reduce fertility and also Increase risks for birth defects and miscarriage.
- Smoking can affect bone health.
  Women past childbearing years who smoke have weaker bones than women who never smoked. They are also at greater risk for broken bones.
- Smoking affects the health of your teeth and gums and can cause tooth loss.
- Smoking can increase your risk for cataracts (clouding of the eye's lens
  that makes it hard for you to see). It can also cause age-related macular degeneration.

➢AMD is damage to a small spot near the center of the retina, the part of the eye needed for central vision.

➢Smoking is a cause of type 2 diabetes mellitus and can make it harder to control. The risk of developing diabetes is 30–40% higher for active smokers than non-smokers. Smoking causes general adverse effects on the body including inflammation and decreased immune function.

Krishna Vinay
Pharm D 5Yr

BUERGER'S DISEASE

Buerger's Disease also called as Thromboangiitis Obliterans is a rare disease which affects arteries and veins in arms and legs. The blood vessels get swelled, inflamed and are blocked with the blood clots. Skin tissues are destroyed and damaged and also may lead to infections and gangrene (death of body tissue due to lack of blood flow). The exact cause of this disease is unknown but Tobacco is one of the major developmental role in causing Buerger's disease (either in the form of chewing or use of any tobacco). It may Appears in people often less than 45 years old. This disease is far common in males than females due to higher rates of smoking in Men. Symptoms may include reddish, pale, tingling sensation of hands and feet, sores on fingers and toes. Feeling cold, numb and having less hair than usual. Infections of Gum are also linked in development of Buerger's disease. Buerger's disease can be diagnosed by testing patient's blood and also other various diagnostic tests like Angiogram and Allen's test.

Treatment: There isn't a cure for this disease but quitting smoking is an important factor in improving the symptoms and also in preventing its progression. Other treatments like using medications which dilate blood vessels and help to improve blood flow and amputation (loss or removal of a body part such as a finger, toe, hand, foot, arm) if infection or gangrene occurs. But these are less effective than quitting smoking. Complications are Gangrene, Amputation, Infections, Stroke or heart attack.



Prevention: Smoking cessation and quitting all tobacco products, Avoiding cold temperatures for longer period of time. Skincare and gum care should be taken along with regular exercises to maintain good health and also to ease the pain and there are also rehabilitation centres and daily counselling sessions for patients to help them deal with cravings for cigarettes.

Conclusion:

Buerger's Disease is a medical condition of unknown cause, linked to tobacco abuse. Surgical revascularization is usually not possible, making other therapies important although there are few randomized clinical trials examining their effectiveness. Currently, complete abstinence from the use of all tobacco is the corner stone of management.

Varshitha
Pharm D 3Yr



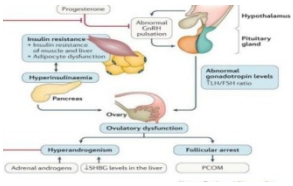
WORLD PHARMACIST DAY CELEBRATIONS -2022



Identification of the risk factors of polycystic ovarian syndrome

Polycystic ovarian syndrome (pcos) is a very common endocrine disorder causing enlarged ovaries with small cysts on outer edges. This encountered in women in which there is an imbalance female sex hormone and irregularities of menstrual cycle. The term Polycystic ovarian Disease (PCOD) was first described by Irving stein and Michael Leventhal as a tried of Amenorrhea. The cause of polycystic ovarian is not well understood ,but may involve the combination of genetic and environmental factors. Women with PCOS produces higher than the normal amount of male hormone ,this may leads to change in menstrual cycle , Cysts in the ovary, failure to conceive , and other health problems.





Etio Pathogenesis

It's trait that results from interaction of deserve genetic and environmental factors, hereditable factors, hyperandrogenaemia, insulin resistance and insulin secretory defects.

Risk factors

PCOS includes sedentary lifestyle, Obesity, Stress, lack of physical activity, History of diabetes, infertility, Family history of PCOS and mother irregular menstruation.

Symptoms

Irregular periods, Heavy bleeding , Hair growth (mostly 70% women hair growth on their face and body), Acne, weight gain, Male pattern baldness, Darkening of skin and headache.

Conclusion

Poly cystic syndrome is major issue among adolescent female and adulthood. The result of this very few young women known what actually this disease is and what are earliest symptoms that should alarm them consult the physician , when the subject identified as PCOD then suggest then to consult gynaecologist and promote the treatment.

Prevention is better than cure. Don't let PCOS defines you..!!!!

Pooja Reddy
PharmD 3 Yr





TEACHERS DAY CELEBRATIONS - 2021



Mental challenges faced by vitiligo patients.

Abstract The article majorly focuses on the psychological issues faced by vitiligo patients and comprises ontheir effective treatment and motivation.

Introduction

Vitiligo is a disease that causes loss of skin colour in patches. The dis coloured areas usually get bigger with time. The condition can affect the skin on any part the body. It can also affect hair and the inside of the mouth. Normally, the colour of hair and skin is determined by melanin. Vitiligo occurs when cells that produce melanin die or stop functioning. . The condition is not life- threatening or contagious. It can be stressful or make you feel bad about yourself.

Epidemiology

1.5 to 2% of the population are affected in both adults and children world- wide. The prevalence ofstress was 76% , anxiety 78%, and depression 80%.Usually female are affected more than malewith psychological co-morbidities. Suicidal analysis:- 7 studies included for analysis, Atotal of 12,043 vitiligo cases were compared with 87,053,33 controls, The pooled proportion ofsuicidal ideation in vitiligo was 15.2% compared to 20% in the control group($p<0.001$). Theproportion of suicide attempts/suicides was also higher for vitiligo compared to controls(3.2%v/s 2.1% $P< 0.001$).

Discussion

The analysis of suicide and psychological co-morbidities are mentioned. This gives the idea about prevalence of vitiligo. However, the women are more affected by psychological co-morbidities as they're certainly considerate about their skin. This may eventually lead to low confidence and self esteem of an individual, which subsequently causes stress and depression. The person must be holistically healthy though he is facing any disease.

To have the mental health intact of a vitiligo patient, the dermatologist, psychological professionals and clinical pharmacists play a major role in counselling them. Points to be considered by a vitiligo patient are:-

- Self-love -as everyone are unique in their own way.
- Listening to motivational speeches and podcasts.
- Always being positive and confident and spending time with loved ones.
- Staying away from negative environment.
- Raising complaint against the bullies.

Conclusion:-The subjects of vitiligo may face challenges from the society but they should be courageous enough to tackle the situation. Though the disease have no cure yet but the mental health treatment from professionals and keeping of efforts from patients of vitiligo would make them contempt.

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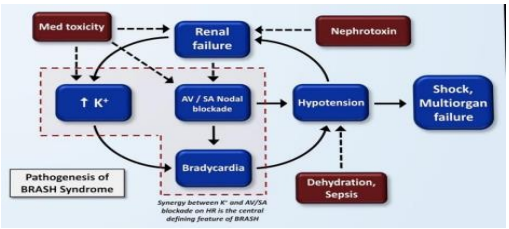
Ayesha Begum
Pharm D 3Yr



BRASH SYNDROME

What is BRASH syndrome?

- B: Bradycardia
- R: Renal failure
- A: AV nodal blockade
- S: Shock
- H: Hyperkalaemia



Pathogenesis of BRASH syndrome

Medications:

- Calcium channel blockers : verapamil, diltiazem
- Beta blockers : metoprolol
- K^+ sparing diuretics : spironolactone
- ACE inhibitors
- ARB's
- Digoxin

Treatment:

- IV calcium
- Nebulized Albuterol dextrose to prevent
- Insulin + dextrose(insulin paired with hypoglycaemia).

Epinephrine (increase heart rate and drives potassium Intracellularly) If patient is hypovolemic of course give IV fluids, so called balance fluids such as lactated ringers.

Conclusion:

BRASH syndrome is a serious complication due to Hyperkalaemia, bradycardia, and hypotension in the setting of kidney dysfunction and the medications that block the atrioventricular node.

K. Shradha,
Pharm D 3Yr

Physical Activity and Nutrition

The new custom is good nourishment. Solid eating regimen and enough physical activity helps in preventing weight gain and /or promoting weight loss. Foods we eat give us energy and we want energy to work out. Though a balanced diet is followed we need to burn our calories. Doing exercise cause necessity of additional nutrients and minerals but it relieves stress and helps in maintaining a healthy weight which are two major factors that affect the digestion. Performing a minimal physical activity is as significant as taking nutritious food that helps our body to absorb the nutrients more effectively. A healthy diet along with exercise is a check for obesity, a major risk factor for heart diseases. It is significant for fruitful maturing to eat food varieties wealthy in supplements and stay away from the vacant calories in treats and desserts.

- Recommended daily calorie intake in Men is 2,500 and 2,000 for women.
- Get at least 150mins (2 hours 30 minutes) of moderate aerobic activity per week.

Inactivity is accompanied by advanced aging which doesn't have to. Performing physical activity on every day schedule can improve brain health, helps in managing weight, strengthen bones and muscles, reduce the risk of diseases.

Eat Exercise Stay Healthy

Sowmya Chintoji
Pharm D 5Yr

PCOS and It's Association with Insulin Resistance

A spoon full of insulin helps the sugar go down...Before getting deep into the topic we must first know what actually insulin resistance means...Let me explain this to you in a very simpleunderstandable yet effective manner. In one single line insulin resistance means our body cellsdon't respond normally to insulin so glucose cant enter cells which lead to type 2 diabetes.

The first and foremost question that comes to all our minds is why does PCOS cause insulinresistance??

Because in PCOS we have hyperandrogenaemia (excess of androgen) that provokes insulinresistance directly in muscles and indirectly by increasing adiposity (obesity). First, insulin resistance is a common but not universal feature of PCOS, It is now clear thatPCOS is often associated with profound insulin resistance as well as with defects in insulinsecretion. These abnormalities, together with obesity, explain the increased prevalence ofglucose intolerance in PCOS. Moreover, since PCOS is an extremely common disorder, PCOS-related insulin resistance is an important cause of NIDDM in women .The insulin resistance in atleast 50% of PCOS women appears to be related to excessive serine phosphorylation of theinsulin receptor.Insulin resistance is a key feature of both obese and lean PCOS. It occursin 70-95% of people with obese PCOS and 30-75% of people with lean PCOS. High insulinis not just a symptom ofPCOS—it is also a major driver of the condition.

Always remember All Women with PCOS Should Be Treated for Insulin Resistance.

Polycystic ovarian syndrome (PCOS) while clinically heterogeneous, commonly exhibitshyperandrogenism, ovulatory dysfunction and is associated with obesity, insulin resistance, andsubfertility.

Metformin has been demonstrated to be effective in normalizing several parameters in womenwith PCOS.

Now the most important thing we must know is what is the correct diet to follow. Research shows women with PCOS can benefit from following a low- carbohydrate or low-glycaemic index (GI) diet, which can aid in managing weight loss and reducing the risk ofdiabetes.

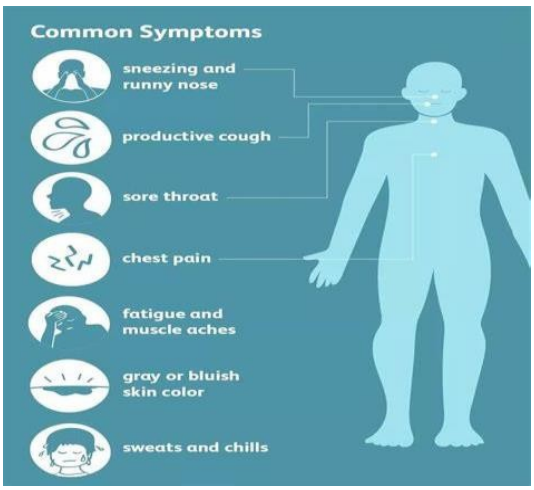
Medications that reduce insulin resistance include biguanides and thiazolidinediones, whichhave insulin-sensitizing and antihyperglycemic effects. Large quantities of insulin are also usedin overcoming insulin resistance. She who wants health has hope and she who has hope haseverything so let's hope to ease all the sufferings and pains women go through throughout theworld.

Dont Let Pcos Define You: Stay Strong, Because You Are Worth It

Santhosh Maddi
Pharm D 6Yr)

Patient Counselling On Pneumonia

Pneumonia is a form of acute respiratory infection that affects the lungs. When an individual has pneumonia, the alveoli are filled with pus and fluid which makes breathing painful and limits oxygen intake.



Patient Counseling

➢Breathing warm, moist air helps loosen the sticky mucus that may make
➢ you feel like you are choking. Other things that may also help include:
➢ Placing a warm, wet wash cloth loosely near your nose and mouth.
➢Filling a humidifier with warm water and breathing in the warm mist.
➢Coughing helps clear your airways. Take a couple of deep breaths, 2 to 3
➢times every hour. Deep breaths help open up your lungs.
➢ While lying down, tap your chest gently a few times a day. This helps
➢bring up mucus from the lungs.
➢If you smoke, now is the time to quit. Do not allow smoking in your home.
➢Drink plenty of liquids, as long as your provider says it is OK.
➢Drink water, juice, or weak tea.
➢Do not drink alcohol.
➢Drinking plenty of fluids is highly recommended if you are suffering from pneumonia.

Diet:

Foods To Be Included In Diet

➢Orange is loaded with vitamin C which acts an antioxidant for the body.
➢Foods such as eggs, tofu, cheese, legumes, and nuts are high in protein content.
➢Include yogurt in your diet as it helps in strengthening the of pneumonia.

Foods To Be Avoid In Your Diet

➢Dairy products should be avoided as it worsen the symptoms.
➢Frozen foods are dangerous to health.
➢Fried foods should be avoided as it increases the pressure of lungs.

S. Sai Vandana
Pharm. D 5Yr

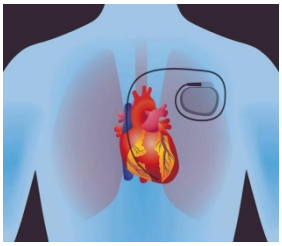
Knowledge of Hypertension and It's Effects On Patients

- Hypertension is a non communicable disease which became a serious health problem and leading cause of death.
- Hypertension has become a major risk factor for many chronic diseases like diabetes, cardiovascular disease.
- Mostly young adults in the world have been affected by hypertension
- The increasing prevalence of hypertension is due to lack of knowledge about disease, incomplete patient education and low economic status which lead to poor medication adherence.
- Proper assessment and counselling to the patients can be helpful in prevention and control of hypertension.
- Information about treatment and other aspects can be understood by patients when they are educated well.
- Pharmacists play an important role in achieving therapeutic outcomes by motivating the patients to take the medications and to adhere the treatment.
- Patient counselling can be provided to the patients or care takers about medications, its direction of use, advice about side effects, diet and life style modifications

Discussion

This study mainly assessed the knowledge, attitude and practice among the hypertensive patients. Mostly younger patients have more knowledge about hypertension and its complications compared older patients .Firstly elevated bmi (body mass index) is the major risk factor for hypertension and it indicates the sedentary life style. Proper physical activity is important; maintain healthy weight according to BMI.

Dietary changes and life style are contributing for major prevalence of for hypertension. High intake of salt can additional risk for increases in elevated blood pressure. Increase in salt intake associated with increased risk of hypertension, reduction of salt intake can be the most effective method to reduce the burden of hypertension.





Mostly males are more prone for hypertension because they are associated with social habits like smoking and alcohol consumption. Co-morbid conditions like diabetes also damages the arteries and hardens them which increases the chances of developing hypertension .

Better practices can make huge differences in the burden of disease.

Conclusion

The burden of non communicable diseases such as hypertension is increasing, and is a significant health problem in both rural and urban areas. Therefore proper education and awareness programs should be provided according to the need of the society which improve the knowledge of the people and bring a healthy change in the attitude and practice.

The pharmacist should educate the patient about the importance of both pharmacological and nonpharmacological control of hypertension. This is the pharmacist mediated patient counselling in improving the knowledge, attitude in hypertensive patients.

Bandamidi Aruna,
Pharm D 5Yr

Smart Phone Connected Pacemakers

The 1st externally battery operated wearable pacemakers was invented by Earl Bakken in 1957.The artificial pacemakers are generally implanted beneath the skin under the collar bone. These are the devices which are responsible to correct the heart rate, too slow or too fast and compensate accordingly. The pacemaker after sensing the abnormal heart rate gets activated and tries to maintain the normal heart rate with the help of leads.

Smart phone connected pacemakers over traditional pacemaker

- The smart phone connected pacemakers work with blue tooth connection assisting the application in the device of the patient. The usage of traditional remote monitored pacemakers shows the suboptimal therapeutic effect and it is operated using bed side monitor.
- The usage of blue tooth connected pacemakers makes the transmission of the cardiac health information a lot easy and also improves adherence.
- The modern day pacemakers with help of smart phone can also transmit information regarding the battery of the device which is the major drawback of the traditional pacemaker where the frequent checking is required.
- However, the pacemakers last long(8 to 10yrs) but they are battery dependent so it will be very difficult for the patients who completely dependent on the artificial pacemaker.

- Here the smart phone plays important role in tracking the battery level where the traditional pacemakers do not comprise this feature.
- The pacemaker connected to smart phone reduces the number of visits to the clinic.
- C level and Clinical non profit medical centre named the smart phone connected pacemakers in its list of top 10 medical innovations 2021.

Even the inventor of pacemakers, EarlBakken used the app to send the information from pacemaker to his physician by smart phone.

Pavan Maroju
Pharm D 5 Yr

Fun fact:

BATHUKAMMA CELEBRATIONS AT MRIPS -2022









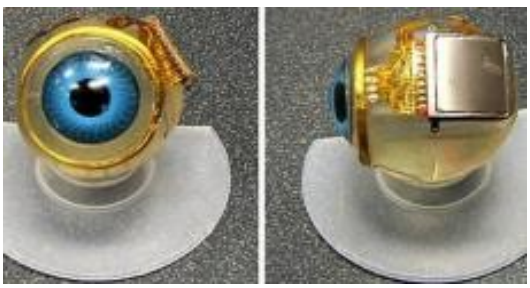
Retinal Prosthesis

Introduction

Visual prosthesis and retinal prosthesis are often known as “bionic eye”, is a futuristic technology. Bionic eye is an electrical device, an electrical implant which improves light sensitivity and assists in restoring sense of vision to people who are suffering from advanced vision loss. This device can treat retinitis *pigmentosa***.** It is a device where a tiny camera in the glasses captures the images and coverts them into electrical pulses. the optic nerve in the eye transmits electrical pulses to the brain.

Review

The most beautiful images and the wonderful beauty of the nature in the world can only be captured, seen with our eyes and we can vizualise all memorable things through our eyes. But, now days about 40million people are suffering from blindness and about 140 million people are suffering from low vision. Bionic eye is an artificial eye having electronic systems consists of image sensors, receivers, radio transmitters and retinal chips which provide visual sensations to the brain. This technology will help regaining the vision in the blind people.



Work

The new technology has inspired numerous multidisciplinary groups worldwide to develop visual neuro prosthetic devices that can potentially provide vision and improve the vision. Above image is the model of bionic eye. It contains a computer chip (3500 micro photodiodes) which is placed at the back effected person eye. The glasses of the person consist of a tiny camera captures images focused by the chip are converted into electrical signals, are transmitted to brain.

There are bionic eye implants which by passes the damaged or diseased cells in the retina. Alpha IMS is a retinal implant consists of silicon chip (3X3mm) in size and 70 micro meters in thickness surgically implanted behind the retina which replaces photoreceptor.

Dr. Garth Webb developed ‘cosmetics bionic lens’ an optometrist in British Columbia. The people who are implanted with this remarkable lens can have a perfect vision, no need of progressive lenses and contacts. The people who got lens surgically inserted will never be exposed to cataract. this is also considered as an advantage. UCLA surgeons of Los Angeles are first to work on in significant breakthrough in restoring the human sight. They have inserted a wireless visual stimulator chip into a patient who had ben blind for seven years.

The patient regained her visual power where she is able to see colours and shapes with bionic eye implant. The Argus retinal prosthesis (16 electrodes) was approved by US FDA on 14 Feb 2013. The brain machine interfaces (BMIs) have improved and has given a hope to paralysed patients by recording neuronal signals from brain.

The rudimentary version of a bionic eye implant was first done in 2012. Through some years the technology has progressed eventually. In 2021, advancements in computer modelling enabled improvements in Argus II retinal prosthesis system. Now the developers are working on 240 electrodes and peripheral electrodes to improve the size of person’s visual field. Bionic eye cannot show more effect in persons having glaucoma.

Conclusion

This is the most trending technology for improving the vision in the vision loss, vision impaired patients now a days. In 2021 FDA has given approval for the wide spread of the bionic eye technology. Eyes are the only organs which wide in wonder at the world.

Y. Ankamma
Pharm D 3 Yr

Neurostimulatory Device Thyncprorelax

- Thync pro relax is the Neurostimulatory device it relaxes from sleep disorders.
- Sleep deprivation is a typical rest problem that can make it hard to nod off, difficult to stay unconscious, or prompt you to get up too soon and not have the option to return to rest.
- It is assessed that most of individuals with sleep deprivation (around 75%-90%) have an expanded gamble for comorbid clinical disorders, for example, conditions causing hypoxemia and dyspnoea, gastroesophageal reflux sickness, torment conditions, and neurodegenerative illnesses.
- The most well-known comorbidities related with sleep deprivation are mental issues.





Discussion: Thync has made a gadget that ought to be well known in our distressing current age. The Thync Loosen up Ace purportedly easespressure, unfortunate rest, and genuine concerns.Thync has made a gadget that ought to be well known in our distressing.

Thync Loosen up Star comprises of aneasy to-utilize cushioned unit that sits on the rear of the neck to take advantage of the body's normal systems and convey pressure help through delicate nerve feeling. It likewise incorporates two neurostimulation programs, Thync Profound Unwind and Thync S Profound Rest, which are constrained by the client through the Thync Loosen up Genius application from a cell phone. When used together, the app, pod, and accompanying electrode pads considerably stimulate nerves on the neck that connect directly to areas of the brain that help control stress levels, mood, and sleep quality.

Conclusion

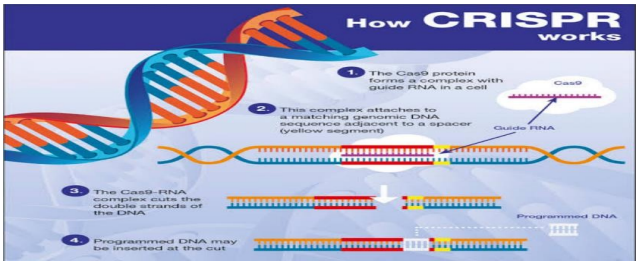
While the Thync Loosen up Expert could have shown a hint of something better over the horizon in really quieting us down, its disappointing plan eccentricities at last caused us to feel everything except loose. Thync should return to the planning phase and upgrade the gadget assuming that it desires to make its bio-electronic treatment effective with purchasers.

S. Soujanya

Pharm D 5 Yr

Crispr Technology ("Clusters Regularly Interspaced Short Palindromic Repeats")

CRISPR is the effective equipment that edits the genome sequence which helps medical researchers to change the genetic material like DNA and also to adjust the genomic function. The CRISPR technology also helps to rectify the genetic defects, decrease the proliferation of diseases. The word CRISPR represents the **"Clusters Regularly Interspaced Short palindromic Repeats"** and indicates the region on genetic material consists of short- duplicate sequences called "spacers". The palindromic sites are repeated at several intervals throughout the DNA sequence that provides the specific enzyme to encode the site for editing or for any other specialized mechanism. According to Quanta Magazine, the discovery of CRISPR took place by identifying the genome in bacteria in the year of 1987.But at the starting stage of discovery of CRISPR site, scientist did not acknowledge the biological importance of genomic sequence . In Japan, members of Osaka University named Yoshizumi Ishino and his team concluded the trait repeats of nucleotides in E. coligutand enhancement of the technology for genetic analysis took place in 1990's.



Recently, the application of CRISPR-Cas 9 technology is employed to come about different diagnostic tests in the COVID-19 pandemic. Not only this, but in the year 2017, by the CRISPR technology, the removal of the defective gene in an embryo which leads to heart diseases has been happened.



Plagiarism Detector Definition

Digital computing that has ability for performing tasks associated with human intelligence AI can be productive and optimized of money and time the relationships between different formulations and processes parameters can be easily comprehensible AI Along with the benefits, the CRISPR technology is also having ethical concerns that may leads to exploitation by illicit experimentation on human embryonic genome which make modifications in the germ cells i.e. eggs in females and sperms in males. The modified gene sequence in the germ cells would be transferred to the off-springs that make the germ-line edits which increases ethical concerns in the research world.

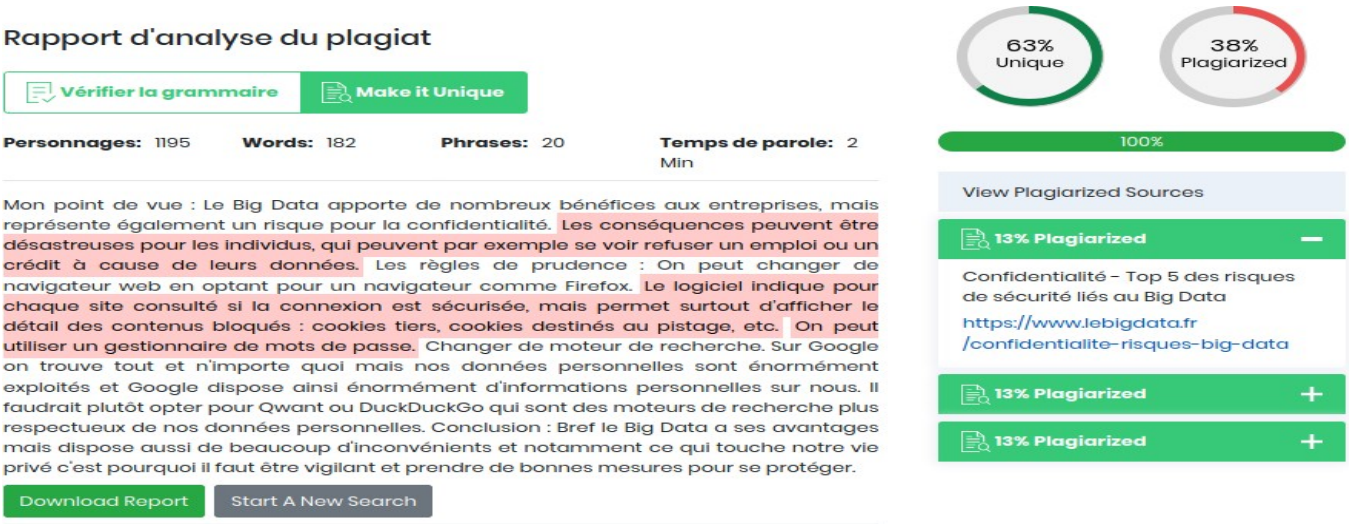
N. Gayathri Reddy

Introduction

Ai was first innovated by Newell and Simon in 1995 before beginning of AI they'd few attempts to explain human thinking's as a illustrative system such as (ideas, emotions, readily comprehend) Alan Turing conducted a test that's about "does machine has ability to exhibit behaviours of human " and to publish the ' computing machinery and intelligence' and this test is called "turing test" there are sorts of AI self awareness. Theory of mind reactive machines limited memory AI in pharmacy tasks are performed by use of automatic algorithms which the normal depend upon human intelligence AI in pharmaceutical industries diagnosing disease data analysis data storage (ML technology) electronic medical record's (EMRS) drug discovery clinical research benefits of AI in healthcare increased accuracy faster deciding solve typical problems to create life's easier. High level computational language outline data - training the machines-building model -predicting outcome AI in healthcare is employed in numerous ways for research and by professionals

Why AI in healthcare?

Development of complex algorithms solves high dimensions in data. High availability of medical data (very vast).Nuance: It is a production service intelligence machine learning AI is also used to learn features hierarchies Applications of AI (healthcare's) R&d Diagnosis(ML technology to store sensitive patients data)Manufacturing QC Processes automation Design optimization Predictive maintenance Labs mri Scan CT Scan etc ...



Conclusion

It is a foremost development to build computational needs of intelligence not only about technology development but also development of healthcare sectors.

Vasavi Vangari

Medication Error

Introduction

As we know the medication plays a major role in the human health. So as a responsible medical professional the pharmacist must have to take care to minimize and also try to completely eradicate the main problem i.e. medication error.

Definition

Medication error is the error in which the improper use of medicine or the patient undergoes harmful effects. Medication error is a preventable event. But medication error leads to the harm of the patient sometimes it may be fatal. While dispensing the medicine the pharmacist should be very careful. The prescribed drug dispensing may lead to various errors. The errors in dispensing occur due to incomplete knowledge of abbreviations or look-alike & sound-alike **(LASA)** drugs. At some situations the pharmacist may also do mistake in giving incorrect dosage.

Types of Errors

1. Prescription errors

2. Dispensing errors

Prescription

errors: These errors are due to not mentioning appropriate abbreviations, directions how to and when to take the medicines. Inappropriate dosage form, and the prescription does not having the instructions for some kind of medicines for example tetracycline it should not be taken along with milk and also it should not be taken by the pregnant women. Route of administration is not mentioned in the prescription.

Dispensing errors are due to miscommunication or poor communication between the prescriber and the pharmacist and also due to incomplete knowledge about the drugs and not knowing the proper abbreviations. Miscalculations of the medicaments while preparing the drug and improper methodology while preparing the drug.

Let it be any type of error at the last the patient is going to be suffered by harmful effects and sometimes it may be fatal.

Risk Factors

Non-Modifiable Risk Factors:

1. Age.
2. Cognitive impairment.

Modifiable Risk Factors:

1. poly-pharmacy.
2. Confusion related to medication names.
3. Discrepancies in HCP-Patient communications.
4. Health literacy

Causes of medication errors

Improper preparation:

Due to improper selection of methodology for preparing drug in certain suitable conditions.

Incorrect route of administration: because it is not mentioned in the prescription.

Failure in identifying drug interactions or contra-indications

The medication error also caused due to Incomplete knowledge of abbreviations; incorrect labelling of drugs; misidentification of client; dose miscalculation and infusion rate; when they not having the previous medical history of the patient not having the idea about drug allergy of the patient.

Measures to Be Taken Avoid Medication Error

The medication errors can be prevented by knowing appropriate abbreviations and having more and appropriate knowledge about the drugs. The pharmacist must have knowledge about when and how to take the medication. The Prescriber must ensure the correct entry of the prescription. There should be proper storage of the drugs. Double check the expiry date of the drug before administration. High alert medicines should be double checked. Failure mode & effects analysis (FEMA)

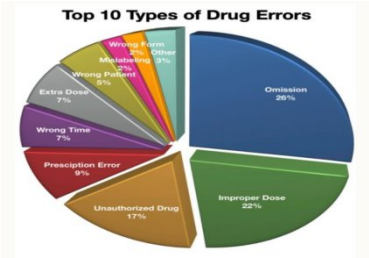
Conclusion

So, from the above study we came to know that medication error leads to the problem for the patients and causes harmful effects. As we are responsible medicinal profession we need to be very careful and should take preventive measures to stop this medication error.

According to the recent studies from a source from internet there are 410 medication errors out of 6,705 case sheets study (6.11%) is the medication error. In that study error in prescription is about 40%; error in administration is about 14% .Transcription error is found to be at peak level with 44.1%.

As from the above studies we came to know that there is medication error more in transcription we have to be careful at this point. The pharmacist should verify the prescription before dispensing the drugs and give instructions about the route of administration.

M. V. Abhinay



Artificial intelligence in drug discovery

Introduction

The use of artificial industry has been increased in pharmaceutical industry in this article, we also discuss about the crosstalk between the tools and techniques utilized in AI.

Artificial Intelligence: It is a technology -based system involving various new tools and networks that mimic human intelligence.

How AI changed drug discovery?

Aggregating and Synthesizing Information

- Combines new RNA sequencing technologies with proper machine learning.
- Data to help quickly identify the direct targets of a novel drug.

Understanding Disease Mechanisms

- ✓ Analysis of genome-wide screens.
- ✓ Discovery of therapies against cancer.
- ✓ Proteins identifying in cell cycle.
- ✓ Brief 3D structure of complexes and proteins.
- ✓ Training to learn models on cryo-EM data.

Generating Novel Drug Candidates

- Prediction of small molecules bioactivity .
- Development of agricultural pesticides.
- Measures metabolites masses fast and inexpensive.
- Integration of data with large scale.

Generating Novel Drug Candidates

- Prediction of small molecules bioactivity .
- Development of agricultural pesticides.
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Strengths of AI in Drug Development

Cost effective Speedy,

Innovative Unbiased,

AI helps in identifying the right biomarket diagnose the disease

AI: Network And Tools: AI involves several domains, such as reasoning, knowledge representation, paradigm of machine leaning[ML]. a subfield of the ML is deep learning[DL], which
engages artificial neural networks[ANNs]. ANNs includes MLP networks, RNNs, CNNs.

4 Techniques of AI

- Machine learning
- Nlp
- Automation and robotics
- Machine vision

Conclusion: Here by I conclude saying that AI has become important to accelerate progress and enhance decision making in many fields and disciplines of medicinal chemistry, pharmacology, molecular and cell biology.

R.Shruthika
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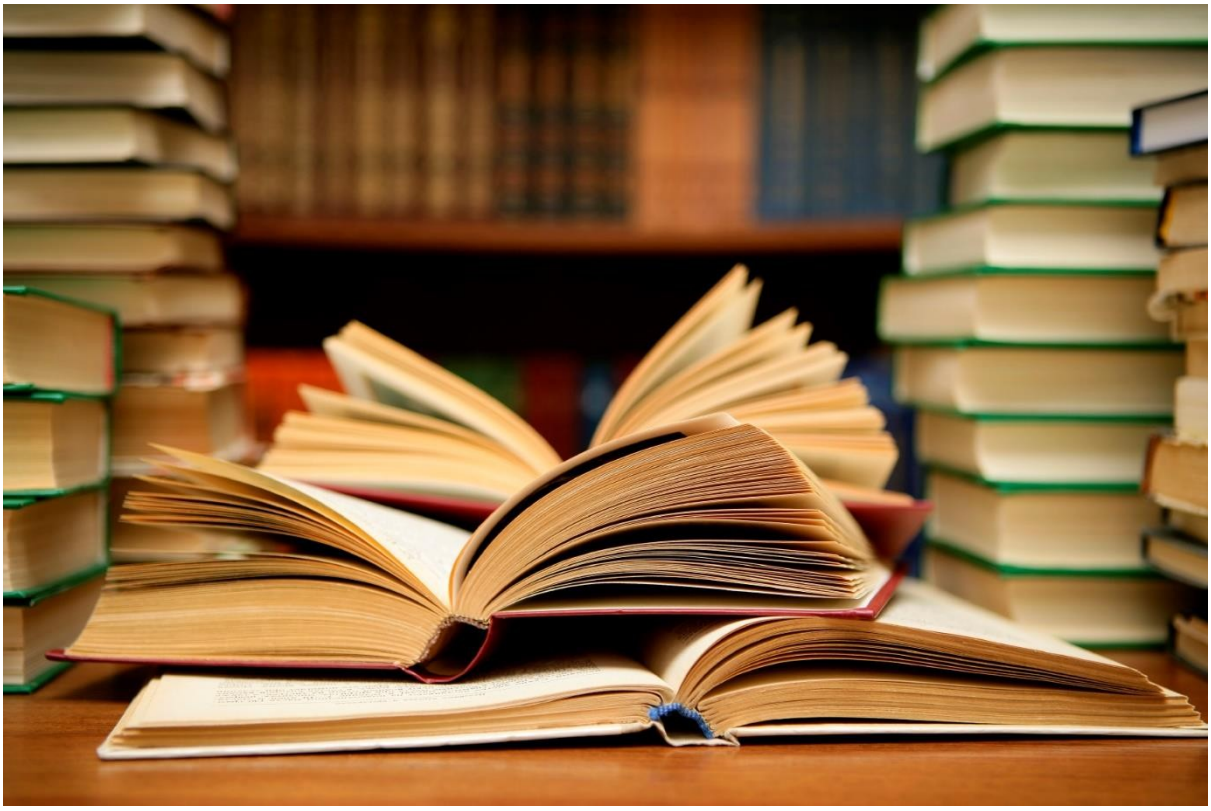

Jahnavi


Ramya


Vinay Sree


Uma Bharathi

CASE STUDIES



Malla Reddy Institute of Pharmaceutical Sciences

Case study on interaction between acetaminophen and warfarin.

Introduction

Acetaminophen can increase a patients international normalized ratio (INR) in a dose - dependent manner. Concomitant use of acetaminophen and warfarin can result in a pharmacodynamic interaction leading to a supratherapeutic INR and consequent bleeding.

Management involves cessation of acetaminophen exposure and reversal of the effects of warfarin in the setting of clinically important bleeding.

Objective: To manage the patient with drug – drug interactions between acetaminophen and warfarin.

Subjective and objective findings

Name: xxx
Age: 47years
c/o: pain and bruising in left upper back from 2 days.

Past history: Rheumatic heart disease with mechanical valve replacement. on warfarin: 12 months.
1 week back: musculoskeletal leg pain. Advised acetaminophen 500 mg every 4 hours for 7 days. Then she developed swelling and warmth around her left upper back and there was diffuse ecchymosis.

O/E: temp: 36.6°CBlood pressure :122/70 mm Hg Pulse: 110 beats/ min Respiratory rate: 22 breaths/min

Spo2: 99%Hb levels: 126g/dl INR: >5.0

Management

3000 units of prothrombin complex concentrate plus 10 mg of intravenous vitamin K, and she was given 1 unit of packed red blood cells. Repeat INR and haemoglobin measurements were 0.9and 91 g/L, respectively. The patient was started on intravenous un-fractionated heparin (initial infusion rate 18 units/kg/h with adjustments as per nomogram; no bolus) to maintain therapeutic anticoagulation for her mechanical valve.

The heparin infusion was felt to be the safest option for anticoagulation in the setting of major bleeding given heparin's short half-life and the option to reverse, if needed, with protamine.

After 7 days of observation, the patient's haemoglobin levels remained stable, without any further transfusion requirements. Over the next week, she was bridged back to warfarin and subsequently discharged home with an INR of 2.5 and a haemoglobin level of 99 g/L. The patient's back pain and initial musculoskeletal leg pain resolved with time and physiotherapy.

Purbai Rohan

Pharm D 5 Yr

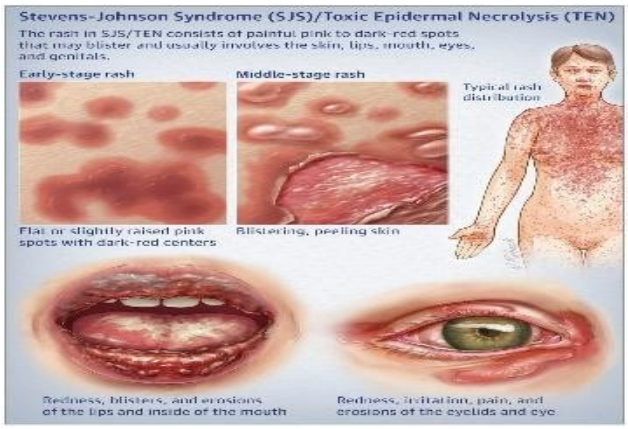
Steven-Johnson Syndrome: A Case Study

Abstract

Physicians writing prescriptions for their patients must inform them about possible side effects. One such complication of drugs- including Sulfasalazine, Zerodol S.P, Tab. Taxim- is Stevens-Johnson Syndrome. Stevens- Johnson syndrome (SJS) is a rare, serious disorder of the skin and mucous membranes. Many types of therapy have proved efficacious for treating the syndrome, but the use of steroid agents is effective in treating it.

Introduction

Stevens-Johnson syndrome (SJS) is a rare, serious disorder of the skin and mucous membranes. It's usually a reaction to medication that starts with flu- like symptoms, followed by a painful rash that spreads and blisters. Then the top layer of affected skin dies, sheds and begins to heal after several days. The condition was first described in 1922 by Stevens and Johnson as a febrile illness with stomatitis, purulent conjunctivitis, and skin lesions. The syndrome is generally described as a vesiculobullous erythema multiforme of the skin, mouth, eyes, and genitals



Case report

An 18 yrs old male patient presented to the emergency department with complaints of rashes all over the body from one day, progressive in nature. C/O fever from 3 days, watery eyes, skin peeling, dysphagia, mucositis. The only medication used by the patient was T. Taxim, and Zerodol S.P one day ago, as a treatment for knee pain and swelling due to Rheumatoid Arthritis. Vitals signs were normal, except for a temperature of 101F. He appeared ill and had small vesicles on the nasal and oral mucosa, rashes all over the body, and blisters on his lips.

The total leukocyte count was slightly elevated at $12x10^3$/CU mm, blood culture test result shows gram + cocci, gram – rods, normal flora, and 1-2 pus cells ketone+ seen in complete urine examination. Patient having H/O measles infection at 11 yrs., H/O of folliculitis at 14 to 15 yrs. The patient took sulfasalazine 500 mg used for 3 weeks had a fever 5 days ago and also took Taxim-O and Zerodol S.P after 7 days, he developed rashes with itching started on the trunk and progressively worsening. A regimen of 40 mg methyl prednisolone given intravenously twice daily was started, and syrup mucaine gel 10ml was given thrice orally for dysphagia. When the oral lesions became so painful that the patient could not swallow his own saliva, a regimen of normal saline was started, Lacto calamine lotion and hydrocort 100mg thrice a day was intravenously given for urticaria, 2cc pheniramine given IV Stat, 1 resp budecort given intranasal, 5ml betadine gargle given orally for sore throat, 1 gm PCM given whenever fever spikes are seen, Syrup cyclosporine 100mg twice daily for SJS-TENS, 50mg etanercept given subcutaneously to treat TENS. Because of his need for increasing wound care, the patient was transferred to the intensive care unit ophthalmologic, dermatological, and rheumatologists' consultations were obtained to address ocular, skin, knee joint pain, and swelling. His condition improved next three weeks and eventually recovered. Follow-up continued on an outpatient basis in the rheumatology, and dermatology departments.

Discussion Course of Disease

Stevens-Johnson syndrome occurs most often in children and young adults. Symptoms One to three days before a rash develops, you may show early signs of Stevens-Johnson syndrome, including Fever, sore mouth and throat Fatigue, and Burning eyes. As the condition develops, other signs and symptoms include Unexplained widespread skin pain A red or purple rash that spreads Blisters on your skin and the mucous membranes of the mouth, nose, eyes, and genitals Shedding of skin within days after blisters form.

Etiology

Stevens-Johnson syndrome is a rare and unpredictable illness. Your health care provider may not be able to identify its exact cause, but usually, the condition is triggered by medication, an infection, or both. You may react to medication while you're using it or up to two weeks after you've stopped using it. Drugs that can cause Stevens-Johnson syndrome include. Anti-gout medications, such as allopurinol Medications to treat seizures and mental illness (anticonvulsants and antipsychotics) Antibacterial sulfonamides (including sulfasalazine) Nevirapine (Viramune, Viramune XR) Pain relievers, such as acetaminophen (Tylenol, others), ibuprofen (Advil, Motrin IB, others) and naproxen sodium (Aleve).

Treatment

Treatments for Stevens-Johnson syndrome include Stopping the medication that has caused the problem. Replacing electrolytes with intravenous (IV) fluids. Using non-adhesive dressings on the affected skin. Using high-calorie food, possibly by tube feeding, to promote healing. Using antibiotics when needed to prevent infection. Providing pain relief medications. Treating you in a hospital, possibly even in an intensive care or burn unit. Using specialist teams from dermatology and ophthalmology (if your eyes are affected). In some cases, treating you with IV hemoglobulin, cyclosporine, IV steroids, or amniotic membrane grafts (for your eyes).

Conclusion

Stevens-Johnsons syndrome is a serious disorder of the skin and mucous membrane. It is treated with steroid agents and other therapy. SJS is triggered by many medications. Physicians must consider steven- johnson syndrome as a potential complication of treatment, especially whether when use of medication is questionable. The multi-organ aspect of the condition is best addressed by the early involvement of medical specialists.

V. Gayathri Goud
Pharm D 5 Yr

Thoracic Aortic Aneurysm

Subjective data

Patient name : xxxxx,

age: 60 years,

gender : male

height: 151cm

weight : 60 kgs,

d.o.a.: 20/12/21

d.o.d.: 31/12/21

Complaints and duration: c/o dyspahgia since 2 months associated with cough with sputum and shortness of breath.

H/o present illness: Patient was having dysphagia, cough with sputum, sob and constipation and admitted for further evaluation.

no h/o of fever, cold, pedal edema or loss of consciousness.

Social history: chronic smoker and alcoholic since many years**.**

Objective data:

Vitals:

Temperature: afebrile, pulse rate: 98 bpm, respiratory rate.: 21bpm, blood pressure. : 120/70mm hg spo2.: 98%on ra

Complete blood picture:

Hemoglobin 10.1 (13-15%),

Rbc count 3.61(4.5-5.5mill/cum),

Pcv 29.7(40-50%),

Rdw 15.8%(11.6-14.0%)

Total count - 10,100(4-10kcells/mm),

Esr 90 (0-12mm/hr),

Hba1c 6.0(6.0-7.0%).

Ct angio of thoraco – abdominal aorta including neck vessels and proximal femoral arteries findings of 5.5cm in maximum ap dimension,6.9cm in maximum width and 5.1cm in maximum craniocaudal dimension saccular aneurysm arising from medial wall of proximal descending aorta between d4 to d7 levels.

*large near concentric peripheral thrombus, contained rupture and small peri- aneurysaml thrombus noted.

*compression of oesophagus, distal trachea, carina and severe bony erosion involving d4,d5 and d6 vertebral bodies.

*mildly dilated isthmus, proximal descending aorta with associated thin walled calcification & compression of distal left pulmonary artery at left hilum noted.

Ecg: probable left atrial enlargement, left ventricular hypertrophy,st elevation, probable early repolarization, abnormal ecg. radiography impression: atherosclerotic changes in the form of eccentric intimal thickening measuring 2.5mm causing 20%luminal narrowing in left carotid bulb. left ijv appears tortuous with slow flow.

Assessment: Based on subjective and objective data, patient was diagnosed with descending thoracic aortic aneurysm.

The standard therapy for the disease is aneurysm repair with graft with cpb. Etiology of the disease was estimated to be a consequence of chronic smoking, which is a known cause for aneurysm conditions

Plan:

S.No	Drug	Dose	Roa	Foa	D.o.s	D.o.st	Toa
1.	I.magnex forte	1.5gm	Iv	Bd	24/12	30/12	8am & 8pm
2.	I.pcm	1gm	Iv	Tid	24/12	26/12	6am, 2 & 10pm
3.	I.pan	40mg	Iv	Bd	24/12	30/12	7am, 7pm
4.	I.oflox	200mg	Iv	Tid	24/12	28/12	8am, 2 & 8pm
5.	Neb.duolin	1resp	Nasal	Qid	24/12	29/12	6,12am & pm
6.	T. Tranexamic acid	600mg	P/o	Tid	26/12	30/12	8am, 2 & 8pm
8.	T.Ultracet	400mg	P/o	Bd	27/12	30/12	8am, 2 & 8pm
9.	I.lasix	10mg	Iv	Tid	24/12	27/12	6am, 2 & 10pm
10.	Syp.ambrodil	10ml	P/o	Tid	27/12	30/12	8am, 2 & 8pm

Discharge medication:

Tab.tramadol-100mg, Tab. Oflox - 200mg, Tab. Dolo – 650mg, Tab.Pan – 40mg,
Tab. Met xl - 25mg, Syp. Ambrodil - 10ml

Patient counselling:

Diet counselling: patient was advised to eat lots of fruits, vegetables, whole grains and low fat food. He was even advised to avoid foods like fatty meals, fried foods, sugary drinks, fatty oils, processed &high cholesterol foods.

Drug counselling: patient was educated about the usage of medications and its importance in his speedy recovery. He was also advised to visit nearby physicians in case of any deteoriated health condition.

***Lifestyle modifications*:** To maintain healthy and ideal blood pressure. To follow practice regular exercises and to maintain physical activity. Cessation of smoking and alcohol consumption.

Caution: as patient was suspected to be pre-diabetic in condition, so regular follow up of glucose levels in blood, can diagnose onset of diabetes and thus proper care may be taken.

Drug interaction: There is an interaction between tramadol and ofloxacin, which may cause seizures and it is more susceptible in patients with history of alcoholism. So, to avoid such interaction patient was advised to maintain gap between administrations of both drugs.

M. Sai Prasanna,
Pharm D 5Yr

A Male Case of Antiphospholipid Syndrome and Cva – Ischemic Stroke

Antiphospholipid syndrome (APS) is an autoimmune disease with auto antibodies and hypercoagulability. Although APS has avariable clinical presentation, APS commonly presents vascular thrombosis and obstetrical complications, such as repeated miscarriages in women. Here, we report a male patient with the clinical manifestations of APS and CVA ischemic stroke, seizures. He was treated with Atorvastatin, Aspirin, Levetiracetam, Hydroxy chloroquine, Homin D3. Clinical condition markedly conscious, coherent, cooperative, well oriented, Afebrile.

Antiphospholipid syndrome is a condition in which the immune system mistakenly creates antibodies that attack tissues in the body. These antibodies can cause blood clots to form in arteries and veins. Blood clots can form in the legs, lungs and other organs, such as the kidneys and spleen. The clots can lead to a heart attack, strokes and other conditions.

CaseReport

A 37 years old male patient presented on 9/9/2022 presented in the emergency department with the complainants one episode of GTCS lasting for about 2-3 minutes associated with tongue by frothing from of mouth and snoring like sounds followed by post ICTAL confusion at around 4/9/2022 on 4am. Family history known case of APLA syndrome, he had recent ischemic stroke – posterior circulation. Vital science was normal, uric acid levels slightly elevated at 10.2mg/dl. The patient was treated with 20mg tab. HCQS once a day given orally for APLA syndrome, 40mg atorvastatin given twice orally, aspirin75mg given once for treatment of CVA ischemic stroke , Levetiracetam 1gm given twice orally for seizures , Zytee gel given twice a day for oral care , Dabigatran etexilate 150 mg given twice orally for CVA – APLA, Omnacortil 5mg given D3 give once in a day orally ,Iv fluids 0.9NACL given for hydration on flow 50ml per hour.

His condition improved and symptoms was subsided once a day for treatment of APLA, 1tab Homin and the patient was discharged from the hospital 18/9/2022 The patient currently attending regular follow-up every 3 months..

Discussion

APLA A is an autoimmune that is more common among females then Male's, however there is no significant difference between males and females in terms of CVA – ischemic stroke as a clinical presentation. Our patient has a family history of APLA syndrome and a history of recent ischemic stroke and seizures .In general patients with APLA Syndrome Has signs and symptoms can include: Blood clots in legs (DVT). Signs of a DVT include pain, swelling and redness. These clots can travel to the lungs (pulmonary embolism). Repeated miscarriages or stillbirths. Other complications of pregnancy include dangerously high blood pressure (preeclampsia) and premature delivery stroke. A stroke can occur in a young person who has anti phosphor- lipid syndrome but no known risk factors for cardiovascular diseases. Transient ischemic attack (TIA). Similar to a stroke, a TIA usually lasts only a few minutes and causes no permanent damage. Rash some people develop a red rash with a lacy, net-like pattern.

Etiology

Antiphospholipid syndrome occurs when the immune system mistakenly produces antibodies that make blood much more likely to clot. Antibodies usually protect the body against invaders, such as viruses and bacteria. Antiphospholipid syndrome can be caused by an underlying condition, such as an autoimmune disorder. You can also develop the syndrome without an underlying cause.

Treatment Standard initial treatment involves a combination of blood-thinning medications. The most common are heparin and warfarin (Jantoven). Aspirin is also used as a blood thinner. Other drugs might be helpful in treating the antiphospholipid syndrome. These include hydroxyl chloroquine (Plaquenil), rituximab (Rituxan), and statins.

Conclusion: A 37 years old male patient presented one episode of GTCS associated tongue bite and recent CVA -ischemic stroke and additional clinical and lab results confirmed a diagnosis of APLA Syndrome. The patient received Atorvastatin, Aspirin, Levetiracetam, Hydroxychloroquine, Homin D3 Dabigatran etexilate and was discharged with no complaints and on regular follow up.

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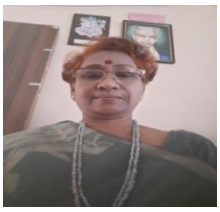
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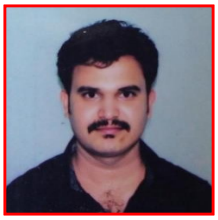
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RESEARCH ARTICLES

A New Stability Indicating Method for Simultaneous Estimation of Drospiren one and Estetrol By Using RP HPLC Method In Its Bulk and Pharmaceutical Dosage For

B. Revathi Rao*, P. Roshini#, Afreen Begum#, Chandra Vishal#, K Sai Charan#, S. Balaji#

***Assoc Prof, MRIPS, # B.Pharm 4yr**

Abstract

A simple, accurate, correct, specific process was developed for the simultaneous inference of the Drospiren one & Estetrol in Tablet dosage form. Chromatogram was run during Agilent C18 150 x 4.6 mm, 5µ. Mobile phase containing buffer Ortho phosphoric acid: Acetonitrile taken in the ratio 55:45 was pumped through column at a flow of 1.0ml/min. Buffer used in this method was OPA. Temperature was maintained at 30°C. Optimized wavelength selected was 240.0 nm. Retention time of Drospiren one and Estetrol were found to be 2.257 min and 2.928. %RSD of the Drospiren one and Estetrol were and found to be 0.6 and 0.6 respectively. %Recovery was obtained as 100.99% and 100.07% for Drospiren one and Estetrol respectively. LOD, LOQ values obtained from regression equations of Drospiren one and Estetrol were 0.01, 0.03 and 0.03, 0.08 respectively. Regression equation of Drospiren one is y = 16939 x + 200.32 and y = 18772x + 1427.2 of Estetrol. System suitability parameters were studied and the outcomes were within acceptable limits when they were injected with the standard six times. Degradation studies were performed with the formulation and the degraded samples were injected and all the samples passed the limits of degradation. This particular technique was found to be consistent with the guidelines set forth by the International Council on Harmonization.

Conclusion

A new sensitive, selective, precise and accurate stability indicating RP-HPLC method has been developed and validated for the simultaneous estimation of Drospirenone and Estetrol in bulk and pharmaceutical dosage form. All the system suitable parameters were passed and were within the limits. The parameters were studied and validated the outcomes were within acceptable limits as per ICH guidelines. Degradation studies were carried out on Drospirenone and E4, all of which came back with a purity threshold that was higher than the purity angle.

As a result, the developed and validated stability indicating method was determined to be suitable for regular estimation of Drospirenone and Estetrol in quality control laboratories and stability studies.

Comparison of Clinical Characteristics, Laboratory Findings between Covid and Non Covid Pneumonia

B Sarika Goud*, Srilatha G#, Vivek Rajbhar#, Archana G#

***Assoc. Prof, MRIPS, # Pharm D 6 yr**

Abstract

Introduction

Pneumonia is defined as significant damage and inflammation to the lungs due to bacterial or viral infection. It may lead to the build up of fluid and debris in the lungs. Covid-19Pneumonia is defined as damage to the lungs due to the corona virus. Covid-19 pneumonia affects both lungs rather than just one lung. Comparable to other pneumonias, covid-19 pneumonia can cause temporary lung damage, in severe cases it can cause permanent damage, but pneumonia may lead to permanent lung damage if it is not treated. Objective: To compare the clinical features, laboratory findings and outcomes between covid-19 pneumonia and non covid-19 pneumonia.

Keywords: Covid-19 pneumonia, pneumonia, clinical manifestations influenza, respiratory syncytial virus, severe acute respiratory syndrome, D Dimer.

Methods: A comparative study was conducted on 120 patients in retrospective and prospective manner. Data was obtained by using patient profile form November 2021 to March 2022.

Result: Out of 120 patients, 40patients were female and 80 patients were male. The median duration was 8(6-10) and 4(3-9) days from exposure to onset of covid-19 pneumonia and non covid-19 pneumonia respectively. The clinical symptoms were almost similar between covid-19 and non covid-19 pneumonia. The most common symptoms were fever, cough, and fatigue. Compared to non-covid-19 pneumonia, covid19 pneumonia had more abnormal laboratory tests which include AST, ALT, LDH, D Dimer.

Conclusion: Generally, study indicated that covid-19 pneumonia had clinical features similar to non-covid- 19 pneumonia. In laboratory tests, liver function tests, lymphocytes, D dimer were altered more in covid-19 pneumonia. Compared to non-covid-19 pneumonia LDH and D dimer may be significant markers for assessing covid-19 pneumonia.

Rational Use of Medicines &Amp; Medication Adherence In Chronic Kidney Disease On Maintenance Hemodialysis

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Abstract

Chronic kidney disease is associated with abnormal structural and functional with kidney and its main unit nephrons, which leads to the abnormal urine output and impaired excretory function. CKD is also associated with hypertension, diabetes, obesity and other renal disorders. So, after crossing the stages the renal failure reaches to end stage renal disorder (ESRD) which is the fifth stage of CKD according to the NKF. Dialysis in the patient individual is done in the end stage, i.e., when kidney lost its function about 80 – 90% and when the GFR rate 15 ml/min. In CKD the maintenance of haemo dialysis is done by some medications like antiplatelet (heparin), erythropoietin stimulating agents, and iron drugs and sometimes if the patient is hypertension ACE inhibitors are used.

Objective

To assess rational use of medicine and medication adherence in chronic kidney disease in the maintenance of hemodialysis.

Methods: A descriptive study, which was conducted on 120 dialysis patients. Data was collected by using a structured questionnaire for 6 months and then analyzed using SPSS version 20.0software.

Result: Of 120 patients who undergoing dialysis 83 patients were male and 37 patients were females. According to the age group classification, the age group of 40 to 50 years old, or 38(31.7%), was the most afflicted. CKD (80%) was the most common diagnosis followed by AKI (10.3%). The most common type of dialysis was an AV fistula (70%) followed by jugular (25%).The most common co – morbidity was hypertension with diabetes mellitus (58.3%). The most common complications were anemia (35.4%) followed by edema (26.24%). Finally, the medication adherence was 76.7%.

Conclusion:

Generally, this study indicated that patients who underwent and undergoing dialysis procedures were majorly affected by CKD. Mostly followed type of dialysis was an AV fistula with co-morbidity condition HTN and diabetes mellitus. The result of the study, which was conducted has minor complications, no major drug interactions, and lower medication adherence, which was developed later by then patient education by counseling the patient.

Comparison of 20 Mg (Atorvastatin& Rosuvastatin) And Prevalence Of Dyslipidemia In Cardiovascular Disease Patients

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Abstract

Background: Many Patients at high risk of cardiovascular diseases do not achieve low LDL levels or maintain the Cholesterol levels i.e., LDL-C, HDL-C, TG in the human body. This study compared the effectiveness and cost between Atorvastatin 20mg & Rosuvastatin 20mg among the patient's undergoing treatment of cardiovascular diseases.

Objective: To compare the effectiveness and cost between Atorvastatin 20mg and Rosuvastatin
20mg among CVD patients and prevalence of Dyslipidemia among CVD patients.

Methods: A retrospective and prospective observational study, which was conducted on 130 CVD patients. Data was collected by using a prepared data collection form November 2021 to April 2022 and then statistically analyzed using SPSS. 22 software.

Result: Out of 130 patients, who are undergoing treatment for CVD, 92 patients were males and 38 were females. Out of these 130 patients ,76% i.e., 99 patients were treated with Atorvastatin 20mg and 23% i.e., 31 patients were treated with Rosuvastatin 20mg. Atorvastatin takes on an average 17.86 days to reduce lipid levels and whereas Rosuvastatin takes on an average 15.09 days. Out of these 130 patients 83% i.e.,109patients were having dyslipidemia as a main risk factor and 17% i.e., 21 patients don't have dyslipidemia as a main cause.

Conclusion: This study states that Rosuvastatin 20mg is more effective than Atorvastatin 20mg and also, we found that Atorvastatin 20mg is cost effective than Rosuvastatin 20mg and with the help of this study we also came to the conclusion that Dyslipidemia is a primary risk factor among CVD patients.

A Prospective Study of Drug Utilization and Evaluation of Remdesivir In Covid Patients

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Abstract:

Purpose: Patients receiving remdesivir during the hospitalization, amongst them a slight elevation of liver enzymes i.e. AST, ALT levels, Hypokalaemia, nausea and elevation of creatinine, blood glucose levels are observed after infusion of the drug by the physician.

Methods: The study represents an observational one to study of adverse effects with remdesivir in covid patients for a period of 6 months Nov 2021 to April 2022. The data collected were analysed using SPSS.22 software.

Results: A total of 100 cases were analysed out of which 40 subjects experienced the ADR associated with administration of remdesivir out of which hypokalaemia in 9, alteration in SGOT and RBS value were observed during the study.

Conclusion: There is a need for collaborative and multidisciplinary efforts in implementing the management of ADR's associated with remdesivir as clinical pharmacist we must contribute to improve the quality of life of patients.

QUIZZ

Case:

62 years old women with a history of hypertension, atrial fibrillation and type 2diabetes. She is a non-smoker and obese. Her current medication comprises flecainide 100MG and diltiazem 180mg daily. The woman is suffering from a Respiratory tract infection and her primary care doctor has prescribed a 5-day course of clarithromycin.

Questions:

1)Are there likely to be any clinically significant drug interactions?

2)What advice do you give?

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