

PHARMA COGNIZANCE

AMRITA SCHOOL OF PHARMACY

INDIA A HUB FOR CLINICAL RESEARCH IN COMING DAYS.

Clinical trial, designed to evaluate and test new interventions has been changing its trends in India year on year. India was considered as an all-time favored destination for clinical trials. Most of the outsourced studies are Phase III studies where India has a diverse pool of patients. Major of them are Oncology and metabolic syndromes related studies. After 2010, there was a major setback in the CRO industry in India. DCGI approvals were delayed and multinational sponsors stepped back outsourcing studies to India. But slowly post 2016, DCGI has been generous enough in proving approvals and online application system has brought a lot of difference. Indian clinical trial market and clinical trial services is expected to grow significantly along with trends. 5673 trails have been registered in CTRI till date.

In 2010 when India was in peak of the getting major MNC studies there was almost 500 trials registered in CTRI, in

2013 it was only 107 studies, in 2014 133 trials, it starting picking. DCGI has come up with more simpler provision of online application of clinical trials and approval for the same. Major CROs include more than 20,000 employees worldwide, but many CROs are small, with fewer than 50 employees. Staff includes entry-level co-coordinators, associates, project managers, medical writers, data managers, statisticians. It's not bed of roses but overall, the CRO sector is experiencing healthy growth.

Previously due to regulatory approval delays some sponsor companies were diverting to conduct their trials in countries like China, Taiwan and Malaysia going by their expertise and speedy clearances. One exciting development in our country is approvals for clinical trials are now taking about four to six months, which is the global standard. It used take 15 months for a trial approval in India couple of years back.



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PHARMA NEWS

- CutisPharma announces FDA approval of Firvanq (vancomycin hydrochloride) an oral solution formulation of an approved tricyclic glycopeptide antibiotic for the treatment of Clostridium difficile associated diarrhoea and Staphylococcus aureus enterocolitis.
- Avion Pharmaceuticals announces FDA approval of Balcoltra (levonorgestrel, ethinyl estradiol tablets and ferrous bisglycinate tablets) a progestin/estrogen combination oral contraceptive (COC) indicated for use by females of reproductive potential to prevent pregnancy.
- Lumify (brimonidine tartrate) is an over-the-counter (OTC) formulation of the alpha-adrenergic agonist brimonidine indicated for use in the treatment of ocular redness. Bausch & Lomb received FDA approval of Lumify in December 2017



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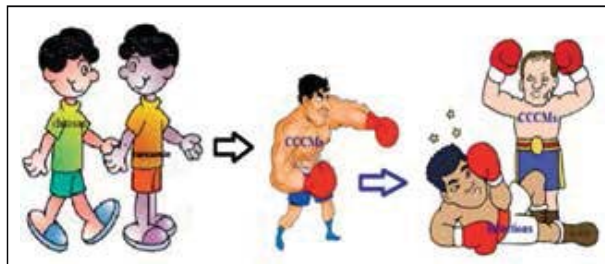


08 PHOTO GALLERY

RESEARCH NEWS

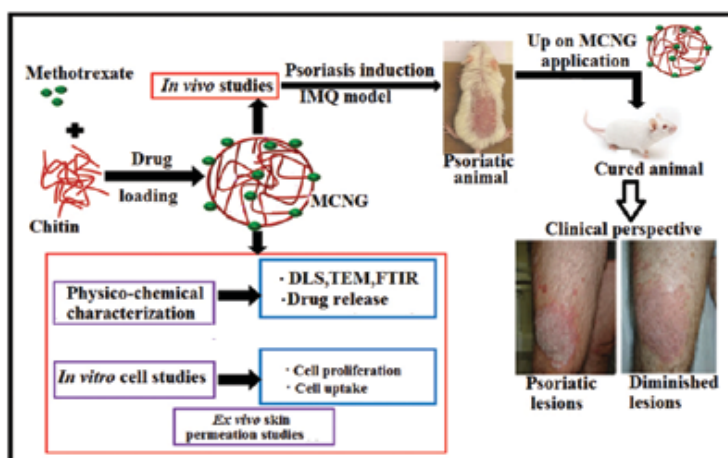
SYNTHESIS, CHARACTERIZATION AND BIOMEDICAL APPLICATIONS OF CURCUMIN CONJUGATED CHITOSAN MICROSPHERES

Curcumin is a standout amongst the most flexible mixes acquired from *Curcuma longa*. The real hindrance in the therapeutic utilization of curcumin is solubility and plasma level concentration. Curcumin conjugated chitosan was synthesized by Schiff base reaction and characterized through spectral data. Curcumin Conjugated Chitosan Microspheres (CCCMs) were prepared by wet milling solvent evaporation method, prepared microspheres were characterized by SEM, DLS, FTIR etc. The antibacterial activities of CCCMs were studied against Gram positive *Staphylococcus aureus* and Gram negative *Escherichia coli*. Anti-oxidant activity was examined by DPPH and hydrogen peroxide method and anti-inflammatory activity was measured using albumin denaturation method. The results showed that CCCMs having a good antibacterial, antioxidant and anti-inflammatory activity and can be used as an anti-inflammatory and antimicrobial agent to prevent skin infections. The research work was published by Ms. Saranya T.S, Dr. S. Sathianarayanan, Dr.R. Jayakymar and Dr. Raja Biswas in Int. J. Biol. Macromol. doi: 10.1016/j.ijbiomac.2017.12.044.



ANTI-PSORIATIC AND TOXICITY EVALUATION OF METHOTREXATE CHITIN NANOGEL IN IMIQUIMOD INDUCED MICE MODEL

This article is dealing with the beneficial effects achieved on topical application of methotrexate loaded chitin nanogel (MCNG) in comparison with conventional carbopol gel of methotrexate. Methotrexate loaded chitin nanogel (MCNG) was formulated and was characterized by DLS, TEM and FTIR. The MCNG particles were spherical in shape with size of 196 ± 14 nm, having surface charge of $+9.21 \pm 0.42$ mv. MCNG exhibited greater swelling and drug release at acidic pH than neutral and alkaline conditions. The treatment with MCNG showed significant level of toxicity on HaCaT and THP-1 cells and was taken up well by HaCaT cells as revealed by fluorescent microscopy. MCNGs exhibited significant anti-inflammatory activity as revealed by the inhibitory effects observed on the activity of COX-2 and LOX-5 enzymes expressed in THP-1 cells. Skin permeation studies revealed an increased transdermal flux of methotrexate from MCNG with loosened stratum corneum and other epidermal layers of skin in comparison with control methotrexate solution treated samples. Significant anti-psoriatic efficacy on imiquimod (IMQ) induced model of psoriasis without any dermal and systemic toxicities suggest that it as an ideal delivery platform for topical delivery of methotrexate in psoriasis. Thus it is expected to become a better alternative for the oral delivery of methotrexate in the selected disease. This work was published by Ms. Rajitha Panonnummal and Dr. Sabitha M in Int. J. Biol. Macromol. DOI: 10.1016/j.ijbiomac.2017.10.112



INVITED TALK@ASP



An invited talk was conducted in ASP on the topic "Predictions of hospitalization due to drug reaction in elderly community dwelling patients (The PADR-EC-Score)" by Mr. Nibu Parameswaran, Research Scholar, University of Tasmania, Australia on 12th October 2017.



Dr. Parvathy, Retired RCH Officer, ART (Anti Retroviral Therapy) Centre In Charge, General Hospital, Ernakulam delivered a talk on "Importance of antiretroviral therapy for HIV patients and its counseling aspects" for Pharm.D students on 2nd November 2017

HANDS ON WORKSHOP ON SPECTRAL DATA ANALYSIS

A Hands on workshop on spectral data analysis was organised by Department of Pharmaceutical Chemistry and Analysis from 14th to 15th December 2017. The workshop was addressed by Dr. S. Satianarayanan, Assistant Professor, Department of Pharmaceutical Analysis. Dr. Sabitha M, Principal, Amrita School of Pharmacy delivered the keynote address and she mentioned about the importance of having a strategic approach in research, which was followed by the inauguration of the workshop. The inaugural address was delivered by Prof. R. Jayakumar, Professor, Amrita Centre for Nano Sciences and Molecular Medicine, Kochi and he emphasized on the importance of spectral analysis in various fields of pharmacy especially in organic chemical synthesis, drug delivery and polymer chemistry.

The four working sessions, handled by Dr. D Vasudevan and Dr. S Radhakrishnan, Sr. Scientists, CSIR-Central Electro Chemical Research Institute, Karaikudi, Tamilnadu, were on various aspects and techniques of spectral data analysis. In the first day, the speaker pointed out the basic principles and importance of the various techniques of spectroscopic analysis such as UV, IR and NMR along with the solving problems on UV spectra, IR, 1H NMR interpretation. Second day was dedicated mainly to C NMR, mass spectroscopy, FT-NMR, 2D NMR and DEPT. Delegates were called for solving interpretation problems and it was the most dynamic of all the sessions. The importance of the combined spectral analysis in the synthesis of organic compounds were also dealt in this session.



FACULTY AS RESOURCE PERSON

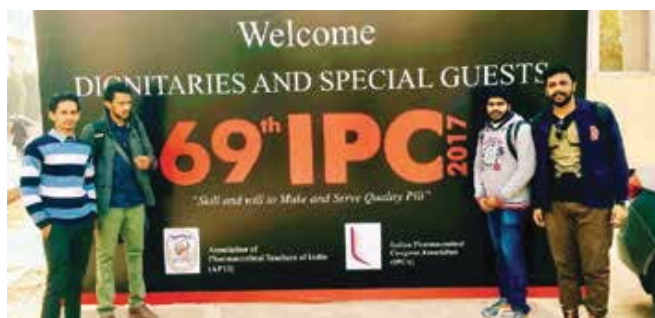
Ms. Anila K N, Faculty, Department of Pharmacy Practice delivered a talk on "Clinical Pharmacist led anticoagulation service" in an International conference on Advanced Pharmacy Practice on 18th and 19th December 2017, Acharya B M Reddy College of Pharmacy, Bangalore.



CONFERENCE AND PRESENTATIONS

Indian Pharmaceutical Congress – IPC

The 69th Indian Pharmaceutical Congress (IPC) was held at Chittakara University, Punjab from 22nd December to 24th December, 2017. The theme for this year was “Skill and will to make and serve quality pill.” Faculty and few Pharm D interns attended IPC.



Advanced Pharmacy Practice

Students of Pharm D 2013 batch (5th year) and Pharm.D PB 2016 batch attended an International conference on Advanced Pharmacy Practice on 18th and 19th December 2017 in Acharya B M Reddy College of Pharmacy, Bangalore. Students presented posters in the scientific sessions and also participated in various programmes like spellrx, case maze and dance competitions.



Herbals and Natural products for liver and pancreatic disorders

M.Pharm students participated and presented posters in the International seminar on Herbals and Natural products for liver and pancreatic disorders organized by Department of Pharmacognosy & Phytochemistry, Al Shifa College of Pharmacy, Perinthalmanna on 25th November 2017. Our team secured first prize in poster presentation.



Advances in degenerative diseases and molecular interventions (ADDMI)

An International conference on Advances in Degenerative Diseases and Molecular Interventions (ADDMI) organized by Society for Research on Degenerative Diseases (SODD) was held at Thiruvananthapuram on 23rd & 24th November 2017. M.Pharm students and Pharm D interns along with faculty attended the conference. Our team bagged second prize for “Serum Quantification of 5-HIAA as Biomarker for Chemotherapy Induced Nausea and Vomiting” in poster presentation.

Drug design and Optimization of drug delivery systems

B.Pharm final year students participated in the seminar Drug design and Optimization of drug delivery systems organized by Nirmala College of Pharmacy, Muvattupuzha on 9th November 2017. First and second prize for poster presentation was secured by our students.



ORAL PRESENTATION BY FACULTY

Mr. Kanthlal S.K, Faculty, Department of Pharmacology delivered an oral presentation on the topic “Will passion fruit as a nutraceutical alleviates the complications in inflammatory bowel disorder patients?” in “International Conference on Advances in Degenerative Diseases and Molecular Interventions” held at Thiruvananthapuram on 23rd and 24th November, 2017

NATIONAL PHARMACY WEEK CELEBRATION 2017

National Pharmacy week celebrations of Amrita School of Pharmacy commenced from 28th November 2017. The theme for this year by Indian Pharmaceutical Association was “Know your medicine – Ask your Pharmacist”. Our school organised various awareness programmes like street plays to public as well as for school children on topics of current relevance and scientific sessions for our Pharm D students. The celebrations started with skit performance on topic “Importance of prevention of drug abuse” by Pharm.D 2012 batch (interns) at Government Higher Secondary School, Edappally. The programme was inaugurated by Mr. Venugopal Kurup, Supdt. Narcotics Control Bureau with a motivating class for the higher secondary and plus one students of the same school on the topic “Problems and consequences of drug abuse among school students”. The skit by Pharm D interns was played in Changampuzha Samskarika Vedi, Edappally on 29th November 2017. Pharm.D 2016 batch students also performed a skit on “Rational use of drugs” at the same venue. Interns performed their skit for school children at Saraswathi Vidyaniketan Public School, Elamakkara on 30th

November 2017. Both the skits were performed in front of B Block, Amrita Institute of Medical Sciences and Research Centre, Kochi on 2nd November 2017. The mind blowing performances properly conveyed the messages of the skits to school students and general public.

The closing ceremony was on 4th December 2017. Mr. Pradeep, Deputy Drugs Controller, Drugs Control department, Government of Kerala, inaugurated valedictory function and addressed the students and faculty on “OTC sales of drugs in pharmacy and role of registered pharmacists to prevent ADRs”. Students of Pharm.D 1st year, 3rd year and 5th year had a discussion time on topics of relevance like antimicrobial resistance and role of pharmacist in preventing it; challenges and opportunities of future pharmacy professionals in India; and role of pharmacists in patient counselling. A Pharma quiz was also organized for Pharm.D and M.Pharm students by Dr. Umadevi P, Associate Professor, Dept. of Pharmacology. Both the skits were also performed during the closing ceremony.



ACHIEVEMENTS

SI No	Name	Prize	Title	Name of the event	Venue and Date
1	Mr. Akhil Suresh	1 st Prize in poster presentation	Methotrexate loaded Nano-emulsion for Rheumatoid Arthritis.	International seminar on Herbals and Natural products for liver and pancreatic disorders	Al Shifa College of Pharmacy, Perinthalmanna on 25 th November 2017.
2	Ms. Ashitha Balakrishnan	2 nd Prize in poster presentation	Serum Quantification Of 5-HIAA as Biomarker for Chemotherapy Induced Nausea and Vomiting	International Conference on Advances in Degenerative Diseases and Molecular Interventions	Hotel HYCINTH by Sparsa, Thiruvananthapuram on 23 rd & 24 th November 2017.
3	Ms. Lakshmi Jayasankar	1 st Prize in poster presentation	In silico design, synthesis and in vitro analysis of some novel 3,4-dihydro pyrimidine-2-one derivatives for breast carcinoma	National Seminar on Drug Design and Optimization of Drug Delivery Systems	Nirmala college of Pharmacy, Muvattupuzha, November 2017.
4	Ms. Jojiya Grace George	2 nd Prize in poster presentation	Antagonistic effect of Ciprofloxacin analogues on DNA gyrase: insights from molecular docking studies	National Seminar on Drug Design and Optimization of Drug Delivery Systems	Nirmala college of Pharmacy, Muvattupuzha, November 2017.



PUBLICATIONS 2017 (OCTOBER - DECEMBER)

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3. Athira P, Sreesha N Nair. Pharmacognostic Review of Medicinal Plant Aerva Lanata. *Journal of Pharmaceutical Science and Research*. 2017; 9(9): 1420-1423.
4. Karthika Ashok Kumar, Chanshi Chandran, Remya Reghu. Valproic Acid Toxicity Induced by Lacosamide A Rare Case Report. *Asian Journal of Pharmacy and Clinical Research*. 2017; 10(9): 1-2.
5. Madathil Shinu Mery Iype, Akhilesh Kunoor, Anila K N. *Asian Journal of Pharmacy and Clinical Research*. 2017;10 (10):4-6.
6. Meenu Mathew, Preenu Thomas, Roshni P R, Nithu M Kumar. A Case Report on Winchester Syndrome. *National Journal of Physiology, Pharmacy and Pharmacology*. 2017; 7(10)
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15. Preenumol Thomas, Meenu Mathew, Roshni P R. Menkes Disease A Rare Case Report. *National Journal of Physiology Pharmacy and Pharmacology*. 2017;7(12):1447-1448
16. Dawnwin Joseph, Delecey Reachel Varghese, Raghuveer Prabhu, Anila K N. Mechanism of resistance to Tyrosine Kinase Inhibitors A Case Report and Review. *National Journal of Physiology Pharmacy and Pharmacology*. 2017;7(12):1444-1446.
17. Asha Paul, K M Fathima, Sreeja C Nair. Intra Nasal Insitu Gelling of Lamotrigine Using Long Actovated Mucoadhesive Polymer. *The Open Medicinal Chemistry Journal*. 2017;Vol.11:3-25.
18. Malini Muraleedharan Nair, Dhanya Susan Abraham, Neethu C M. Clonazepam-Induced Acute Liver Injury: A Case Report. *National Journal of Physiology Pharmacy and Pharmacology* 2017;7(12):1439-1440

OVERSEAS VISIT BY FACULTY

Dr. Umadevi P, Associate Professor, Dept. of Pharmacology attended "International conference on cognitive reserve in dementias" arranged by Dept. of Psychiatry and Psychotherapy of Ludwig-Maxmillians, University of Munnich, Germany on 24th and 25th November 2017.





For comments & Suggestions :



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