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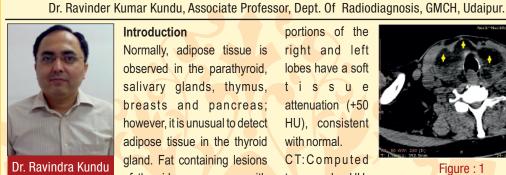
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# HIGHLIGHTS

- A case report on radiologic findings of thyrolipomatosis
- Urinothorax -A rare cause of pleural effusion
- Licofelone novel analgesic & anti-inflammatory agent for osteoarthritis
- Independence day celebration
- Degree distribution ceremony -MBBS 2009 batch
- Prestigious Joinnings
- Breast feeding week celebrated
- Two days national conference on contemporary technologies in drug delivery and envisaged future trends



Introduction Normally, adipose tissue is observed in the parathyroid, salivary glands, thymus, breasts and pancreas; however, it is unusual to detect adipose tissue in the thyroid gland. Fat containing lesions of thyroid are very rare with

only a few cases documented in the literature. Thyrolipomatosis being the rarest with 11 cases reported in world literature as the presence of mature adipose tissue in the parenchyma of the thyroid gland is extremely rare. Thyrolipomatosis is characterized by diffuse infiltration of adipose tissue in the thyroid gland. We report a case of thyrolipomatosis in a 73 year old male with emphasis on imaging findings.

#### **Case Report**

A 73 yr old male presented with rapidly enlarging midline neck swelling of 2 months duration. Respiratory discomfort during breathing and hoarseness of voice occurred since few days. There was no history of palpitation, tremor or sweating. A physical examination revealed signs of pallor without icterus. A large midline neck swelling was found, which moved with deglutition. The mild tender swelling was soft in consistency, more prominent on right side. All routine haematological investigations and thyroid function tests showed normal results. Clinical diagnosis was multinodular goiter .Sonography showed diffusely enlarged thyroid gland with altered echotexture. Multiple nodular echogenic lesions were noted in both the lobes. Unenhanced Computed tomography (CT) of the thorax and neck revealed a mass with no distinct margins and predominantly fat attenuation in both lobes of the thyroid gland.. The intralesion low density areas suggested fat density (- 60 to -70 Hounsfield units [HU]) with mass effect on trachea (figure 1 & figure 2). No enlarged lymph nodes could be noted.

Figure 1: Unenhanced axial view CT scan shows diffuse, predominantly fatty mass(-60 HU) with no distinct margins(marked by yellow asterisk) of the thyroid gland. The mass causes enlargement of the isthmus and extends to both right and left lobes. Small

portions of the right and left lobes have a soft tissue attenuation (+50 HU), consistent with normal.

A CASE REPORT ON RADIOLOGIC FINDINGS OF THYROLIPOMATOSIS

**CT**:Computed tomography; HU: Hounsfield unit. Figure 2: CT coronal

reformated image showing regions of low density areas (-60 to -70 HU, marked by yellow asterisk) in both



Figure : 1



Figure : 2

lobes & isthmus of thyroid. Both thyroid lobes and isthmus are enlarged in size causing mass effect on trachea.

Magnetic Resonance (MR) images of the neck confirmed the fatty nature of the mass . Fast spin-echo T1-weighted MR image showed the lesion to be isointense with subcutaneous fat. These imaging findings signalled towards diffuse presence of mature adipose tissue inside thyroid gland which defines thyrolipomatosis. Also, skin biopsy was negative for amyloid deposition. A near total thyroidectomy was performed and histopathological studies confirmed thyrolipomatosis in the post-operative specimen.

#### Discussion

The origin of adipose tissue in the thyroid gland is unclear. Some authors think that adipose tissue is included in the thyroid gland during embryogenesis and that thyrolipomatosis is a true neoplasm with proliferation of fatty tissue. Other authors suggest metaplastic origin from fibroblasts. Most of the fat containing lesions of thyroid are benign, occasionally malignant, hence rendering a correct diagnosis is essential. Our patient had diffuse enlargement of the



# **Desk of the Dean**



It's a matter of great pride for this UNIVERSITY to see SPANDAN completing four successful years of its first release. I would like to congratulate Editorial Board and specially Dr Harish Narayan Mathur for working hard to make it a success. With a heavy heart we will be bidding adieu to Dr. Mathur on his superannuation from this institution on completing 70 years and also from Editorial Board. The success and expansion of Spandans horizon is all due to his untiring hard work and efforts. We all wish a very healthy life to him and Mrs. Mathur.

thyroid gland. His condition was euthyroid, and no enlarged lymph nodes or clinical signs of malignancy were found. Hoarseness of voice was due to pressure effect of enlarged thyroid on trachea. Diffuse enlargement of the thyroid gland could also be explained with amyloid goitre ,but diffuse lipomatosis as seen in association with amyloid goitre is always associated with amyloid deposition elsewhere in the body. Skin biopsy of our patient did not disclose amyloid deposition. Thyrolipomas( adenolipomas) are described as well-capsulated benign nodules containing fat and thyroid tissue but CT disclosed a diffuse mass with no distinct margins and predominantly fat attenuation in the thyroid gland. Differential diagnosis of fat containing thyroid lesions include lymphocytic thyroiditis, parathyroid lipoma, heterotopic adipocytic nests, amyloid goiter, thyrolipoma, liposarcoma and encapsulated papillary carcinoma.

#### Conclusion

Sonography is widely performed for imaging the thyroid gland and is usually sufficient to make a diagnosis when combined with laboratory findings and fine needle aspiration cytology. Fatty tissue infiltration or fatty masses may be iso-echoic and cannot be differentiated from normal thyroid gland on ultrasonograms. For the current patient, sonography was not diagnostic, and the diagnosis of thyrolipomatosis was based on the CT and MR imaging appearances, and exclusion of other diseases.

# URINOTHORAX – A RARE CAUSE OF PLEURAL EFFUSION

Dr. Atul Luhadia - Interventional Pulmonologist & Assistant Professor, Department of Respiratory Medicine - GMCH



#### ABSTRACT

Urinothorax is a rare cause of pleural effusion and is typically the result of either obstructive uropathy or injury to the kidney or urinary tract either traumatic or iatrogenic. We report a case of right sided renal calculus with hydronephrosis & bladder calculi who developed right sided moderate pleural effusion following right PCNL &

cystolithotripsy. The diagnosis of urinothorax was confirmed by demonstrating a pleural fluid to serum creatinine ratio of greater than 1. The patient was referred back for surgical repair which resulted in resolution of the pleural effusion.

#### INTRODUCTION

Urinothorax is defined as presence of urine in the pleural space. It is a rare cause for pleural effusion that is typically classified as having either an obstructive or traumatic/iatrogenic etiology. Since its first description in 1968 ,only a fewer cases had been reported so far. It is believed that the urine moves retroperitoneally through the diaphragmatic lymphatics or defects in the diaphragm into the pleural space.

#### **CASE REPORT**

A 70 year old male presented to a urologist with complaints of pain in abdomen, dysuria & fever. On further evaluation, USG abdomen was done which showed right sided renal calculus with hydronephrosis & bladder calculi for which right PCNL & cystolithotripsy was done. After 5 days, patient developed right sided chest pain & breathlessness. Chest X ray was done which showed right sided moderate pleural effusion. Chest X ray taken before the operation was normal. The patient was referred to us for further evaluation. In view of right sided pleural effusion following right PCNL & cystolithotrypsy, a diagnosis of urinothorax was suspected. Right sided thoracentesis was done & pleural fluid showed a straw colored fluid which had smell like urine. Further pleural fluid analysis showed a low protein of 0.71 gm/dl, high LDH of 1563 U/L, low sugar of 0.14 mg/dl, low ADA of 22 U/L, and a high creatinine value of 7.54 mg/dl. No pathogenic organism was isolated on gram's stain, AFB smear was negative & Cytology was negative for malignancy. His routine hematological & biochemical investigations were normal with serum creatinine equal to 1.2 mg/dl.

So as the pleural fluid creatinine (7.54 mg/dl) was higher then the serum creatinine (1.2 mg/dl), the suspected diagnosis of urinothorax was confirmed. The patient was referred back for surgical repair which

# **Editorial**



With this issue, SPANDAN, the quarterly Medical bulletin of Geetanjali University, Udaipur completes four years of its journey. It has been possible because of the efforts of one and all associated with Geetanjali group. Scientific articles, cases reports of patients treated, activity reports of the various events organized, expansion and updating our out and inpatient services with advanced hi-tech technologies and joining in of super specialist and specialist manpower are the core contents of this issue. As a spokesman of GMCH, SPANDAN has been appreciated and accepted by the medical faculty, institutions and administrative units all around and by the common masses as well. I thank the Patrons, Advisors and all members of editorial board for its success in whatever little way, we could achieve. Editor-in-Chief



resulted in resolution of the pleural effusion.

#### DISCUSSION

Urinothorax is a rare cause of pleural effusion. Usually the pleural effusion is ipsilateral to the side where urinary obstruction is present or towards the side of the injury to the urinary tract. Bilateral cases are rare. A history of obstructive renal or bladder disease or trauma or injury to the kidney & urinary tract should increase the suspicion of urinothorax. Confirmation of the diagnosis can be obtained with simultaneous measurements of the pleural fluid & serum creatinine levels in a suspected case of urinothorax. A fluid : serum creatinine ratio of >1 has been suggested as an indicator of urinothorax . In our case, normal chest X ray before the operation & history of right side PCNL &

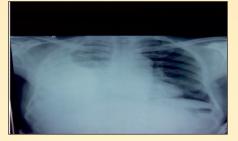
cystolithotripsy gave a suspicion of urinothorax. So pleural fluid creatinine & serum creatinine estimation was also ordered alongwith other usual parameters for pleural fluid analysis. High pleural fluid : serum creatinine ratio (6.28) alongwith low ADA, high LDH & low protein confirmed the diagnosis of urinothorax.

#### CONCLUSION

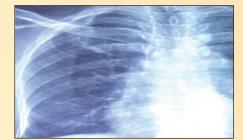
A careful history and meticulous examination of series of chest X rays as well as awareness about urinothorax can help to diagnosis this rare condition & the unnecessary expensive investigations like CT chest & thoracoscopy can be avoided. Treatment of the primary cause to relieve obstructive uropathy or surgical repair of the urinary tract usually results in the resolution of pleural effusion.



Normal CXR before PCNL & cystolithotripsy with right sided calculus



Right sided pleural effusion after Right PCNL & cystolithotripsy



Chest X-Ray post surgical repair (Right side pleural effusion resolved)

# LICOFELONE- NOVEL ANALGESIC AND ANTI-INFLAMMATORY AGENT FOR OSTEOARTHRITIS

Dr. Kalpesh Gaur, Associate Professor & Head, Geetanjali Institute of Pharmacy, (Geetanjali University), Udaipur, Rajasthan, India



Licofelone (2-[6-(4-chlorophenyl)-2, 2dimethyl-7-phenyl-2, 3-dihydro-1H-pyrrolizin-5-yl] acetic acid) is the first member of new class of analgesic and anti-inflammatory drugs acting by dual mechanism inhibiting both cyclooxygenase (COX) and 5lipooxygenase (5-LOX). Inhibition of 5-LOX may reduce the gastrointestinal toxicity associated with other non-steroidal anti-

inflammatory drugs, which only inhibit COX. It has been evaluated for the treatment of osteoarthritis (OA), most common form of arthritis. It has been found to be significant effective phase III clinical trials completed on patients of osteoarthritis.

Licofelone is developed by the German pharmaceutical company, Merckle GmbH, together with EuroAlliance partners Alfa Wassermann and Lacer, licofelone (ML3000). First generation of compounds showing dual inhibition of LOX-5 and COX-2 such as Benoxaprofen is not longer in use due to their liver toxicity. A new generation of compounds has been developed offering a more balanced inhibition of LOX-5 and COX-2 enzymes by acting as a substrate competitor. Licofelone is one of the most promising candidates for treatment of OA as anti-inflammatory drug. In humans, after oral administration of immediate release tablets, licofelone is rapidly absorbed from the gastro-intestinal tract and maximum plasma concentrations are achieved approx. 2-3 h after administration. Systemic elimination follows bi-phasic characteristics with a rapid initial decline of plasma concentration ( $T\frac{1}{2}(\alpha) = 1$  h) and a slow terminal elimination ( $T\frac{1}{2}(\beta) = 7$ -9 h). In plasma, after single dosing, ML3000-1-O-acyl glucuronide (M1) and Hydroxy-ML3000 (M2) were detected as metabolites. Relative to the parent drug, the systemic exposure remained below 2%. After repeated administration, at steady-state, the exposure of M2 increased to approx. 20% relative to that of the parent drug and the rate of systemic elimination was below that of the parent drug (monophasic,  $T\frac{1}{2}$  = 10-12 h). In contrast, M1 remained at the level of a trace metabolite. In that respect the disposition of licofelone in humans is different from all standard animal species (mouse, rat, dog, monkey) in which systemic concentrations of M2 were negligible even upon chronic dosing. A further hydroxy metabolite of licofelone is M4. This compound was initially identified in microsomal experiments but not in plasma samples from humans after single and repeated administration of therapeutic doses, i.e. 200 mg or 400 mg b.i.d. relevant concentrations were determined in plasma samples from subjects who were treated with increasing doses in order to determine the maximum tolerated dose. The chemical structures of licofelone and its metabolites are shown in figure 1. The results from in vitro metabolism studies are presented which demonstrate that in humans hydroxylation of the glucuronide M1 represents the pivotal step in the biosynthesis of M2. Although the cytochrome P-450 (CYP)-dependent hydroxylation of





glucuronides has been described in the literature, the formation of M2 represents a 6 of 40 unique example as the systemic exposure of humans to this major metabolite is based on the glucuronidation of the parent drug followed by hydroxylation of the glucuronide.

Licofelone inhibits LOX-5, COX-1, and COX-2, decreases production of PGs and LTs and presents lower GI toxicity compared to nonsteroidal anti-inflammatory drugs (NSAIDs) naproxen and rofecoxib. Interestingly, it has been reported recently that Licofelone inhibits LOX/COX pathways and induces apoptosis in HCA-7 colon cancer cells. Interestingly, a recently published report, that uses a mathematical model to study the interactions of the AA metabolic network, has revealed that a dual inhibitor against LOX/COX is more effective than a combination of single COX and LOX inhibitors.

Licofelone; distinctly differs from NSAIDS since it inhibits not only COX but also 5-LOX which is associated with the production of proinflammatory and gastrotoxic leucotrienes. Inhibition of COX alone by NSAIDS is expected to shunt arachidonic acid metabolism to 5-LOX pathway leading to increase production of gastrotoxic leucotrienes. Thus, inhibition of 5-LOX in addition to COX is a new opening for having an agent possessing anti-inflammatory properties with reduced gastric toxicity. In fact, 5-LOX now stands implicated in the deterioration of joints in OA. Inhibition of 5-LOX, therefore, can be said to protect cartilage and connective tissue from damage and also slow the progression of the disease.

In summary, it is to be noted that licofelone as a first member of new class of COX and 5-LOX inhibitors possess analgesic & antiinflammatory activities with mechanism of action attributable to inhibition of LTB4 & thereby of IL-1B and arresting the production of proteolytic enzymes responsible for damaging structural changes of joints. Thus licofelone by arresting the pathophysiology of OA is going to be an ideal disease modifying drug with better tolerability and acceptability.

## INDEPENDENCE DAY CELEBRATION

The 70th National Independence Day was celebrated in Geetanjali Medical College & Hospital on 15th Aug, 2016 with great zeal, enthusiasm and feelings of achievement and happiness. The chief guests on the occasion were Shri Ankit Agarwal, Executive Director of Geetanjali Group and Dr. F.S. Mehta, Dean-GMCH, Dr.Kishore Pujari, CEO, Geetanjali Hospital and Medical Superintendent Dr. G.L. Dad were the guest of honour.

Amongst a huge gathering of faculty, Geetanjali employees and attendnts of patients, Shri Ankit Agarwal & Dr. F.S. Mehta unfolded the National flag. Shri Ankit Agarwal congratulated the Geetanjali family for completing ten year of dedicated services and the achievement made. He was determined that the past had been wonderful and the future would be still glamorous and glorified with introduction of more and more hitech advanced modalities like robotic surgery, transplant unit and many more. Already developed services in terms of manpower technologies, infra structure, machines & equipments, therapeutic & academics would be further consolidated and improved.

Dr. F.S. Mehta, the Dean in his address elaborated various achievements and service efforts being made by Geetanjali Institutes and credited them to the efforts of management, faculty and each one associated with Geetanjali.

Last year the Medical Council of India permitted admission of 56 Post graduate students in various clinical department which increases the number of post graduate admission in various courses to 79. The Central government has also permitted to start post graduation in Radio-therapy and General Surgery. The second batch of post graduate students have cleared their courses to obtain degrees. The function to award MBBS degree to 2009 batch has been recently held, in which Shri Ankit Agarwal the Executive Director conferred the degree to the successful students. Kavita Sharma of this batch stood 1st in all Rajasthan examination conducted by Rajasthan University of health Sciences, Jaipur. Students in Physiology, Anatomy (GMCH) and Nursing Colleges are in process of completing their Ph. D. work.



Permission of Dental Council of India has been accorded for admission in III year BDS course.

The College of Physiotherapy has been equipped with electrophyso therapy instruments to diagnose and treat pheripheral nerve disorder system. It is a mile stone and GMCH is first in Rajasthan to have this facility.

Our institution is actively involved in patient care with social dedication and devotion to associate it self with various government schemes to cater medical care in the field. Through more than 140 camps in Udaipur



and other district and state more than 14000 patients have been benefitted.

Through PPP mode GMCH has adopted P.H.Cs. Savina, Sagatara, Kun and Lunda where we woulde be responsible for providing Health Care services.

To provide medical and health care to the poor segment of the society as per the commitment of our Chief Minister, GMCH has been providing Bhamashah Swasthya Bima Yojana since 13th De. 2015. We have provided treatment worth Rs. 10 crores (Second to SMS, Jaipur in Rajasthan).For this scheme we have booked 9380 packages till now.

We are the only institution from South Rajasthan to treat 16 serious diseases under Rashtriya Bal Swasthya Karyakram (RBSK). We have so far treated 142 children under this scheme. Similarly we are operating Van Bandhu Yajna to provide services in distant tribal areas of

Kotara, Likhrani, Safe maternal Divas Camps, Beti Bachao Campaign, Nandghar Yojana and being organized to materially and financially support 12 Anganwadi Centres etc.

ICU on Wheels services has been started from June 2016. Thus in various ways the Geetanjali Institute has been deeply and dedicatedly involved in Medical and Health care of the Community and is also co operating with various government programmes and schemes. GMCH has been awarded with "Times Education Achievers" award 2016" jointly by the Times of India group and G.D.Goyanka group.

Dr. Kishor Pujari, C.E.O. Geetanjali Hospital felt honoured to join such an institute of repute and promised to take it further up. Some cultural events including Desh Bhakti Geet were presented by Students. Shri Rajeev Pandya, the General Manager (HR) convened the programme in very befitting way.

## THE RENOVATED OPD OF DERMATOLOGY, VENEREOLOGY AND LEPROSY INAUGURATED

To cater to the increased patient load, the OPD of Dermatology, Venereology and Leprosy has been expanded and rennovated with the latest technologies. It was inaugurated by the Chairman of Geetanjali Group Shri J.P. Agarwal along with Vice Chairman Shri Kapil Agarwal and Executive Director Shri Ankit Agarwal. Shri J.P. Agarwal congratulated the specialist, Dr. Kalpana Gupta, Dr. Nidheesh Agarwal and Dr. Rahul Sharma for excellent work done by them. The program was graced by senior doctors, residents and patients.



Rajasthan University of Health Sciences, Jaipur, While Ms. Nehal

## DEGREE DISTRIBUTION CEREMONY - MBBS 2009 BATCH

To award MBBS degree to successful students of 2009 admitted students, a grand and graceful convocation program was arranged in the Smt. Narmada Devi Agarwal auditorium of Geetanjali University on 8th Aug. 2016. The degree was awarded to 140 passed out students by the Executive Director, Shri Ankit Agarwal, Vice Chancellor Dr. R.K. Nahar and the Dean GMCH, Dr. F.S. Mehta.

Minda and Romi Doshi stood second and third respectively in GMCH. Hippocratic oath was administered by the Dean of GMCH Dr. F.S. Mehta. Some cultural items were also presented by students. The program was graced by the CEO, Dr. Kishor Pujari, the Registrar Shri Bhupendra Mandalia and all HODs and faculty members of various departments. The program was convened by Dr. Manjinder Kaur.



Ms. Kavita Sharma topped the list of the successful candidates from



# **NEW JOINNINGS**

GMCH services recently have got boost with joining of three specialists, hitherto not available here.



**Dr. Atul Mishra**, M.S., M.Ch. (Paediatric Surgery) joined as consultant paediatric surgeon. He has with him experience of working as consultant paediatric surgeon at Kalawati Saran Hospital & Lady Hading Medical College, New Delhi at Safdarganj Hospital & Vardhman Mahaveer Medical College, New Delhi & as senior consultant & head of dept. of paediatric surgery at St. Stephen's Hospital, New Delhi for last ten years.

He have started operating upon child patients for various disorders & already have twenty surgeries to his credit.

Dr. Atul Mishra



**Dr. Avneesh Khare,** M.D. (S.M.S. Medical College, Jaipur) & PDCC (Pain Management - Banaras Hindu University, Varanasi) have joined as consultant, Pain Management at GMCH after gaining experience of working at AIIMS New Delhi & Jodhpur. He would provide consultation for releif in pain ofdiverse etiologies, may it be due to cancer trigeminal neuralgia, migrain or of orthpedic origin.



**Dr. Vaibhav Choudhary,** M.D. (Gold Medalist) from AIIMS New Delhi, D.M. (Medical Oncology) from Tata Memorial Hospital, Mumbai, ECMO (European Society of Medical Oncology) persuing M.R.C.P. is another feather in the cap of Geetanjali Cancer centre. As consultant Medical Oncologist he would provide chemotherapeutic treatments to adult & pediatric patients.

# BREAST FEEDING WEEK CELEBRATION



The Department of Pediatrics of GMCH along with Rotary Club Udaipur and Rajasthan Patrika Celebrated 25th international Breast Feeding week from 1-7th August 2016. Shri Ankit Agarwal (Executive Director) along with other dignitaries released the poster containing information regarding breast feeding for General Public in the inauguration. Various activities like lectures, panel discussions,



poster and slogan competitions, skits & debates regarding breast feeding were organized in different girl schools, colleges and in rural areas. A successful activity was organized on 04-08-2016 in the premises of GMCH in the form of quiz, slogan and poster competition for undergraduate students and nursing staff and students. These activities were appreciated by all.

# TWO DAYS NATIONAL CONFERENCE ON "CONTEMPORARY TECHNOLOGIES IN DRUG DELIVERY AND ENVISAGED FUTURE TRENDS"

A two day Department of Biotechnology (DBT), Indian Council of Medical Research (ICMR), and Association of Pharmaceutical Teachers of India (APTI) Sponsored National Conference on Contemporary Technologies in Drug Delivery and Envisaged Future Trends was recently organized by Geetanjali Institute of Pharmacy, Geetanjali University, Udaipur on 12th-13th August, 2016. Around 500 delegates comprising of Principals, teachers, research scholars, post graduate and graduate students from various institutes across India participated in the two day conference.

The first day comprised of inaugural session, four scientific sessions, followed by the session consisted of poster presentations. Second day consist of three scientific sessions and final part included the valedictory



session which marked the end of the academic event.

The guests and gathering were formally welcomed by Dr. Ashok Dashora (Dean-GIP). He continued his words and talked about his mission towards vision & values. The souvenir was released by our distinguished guests.

Dr. R. K. Nahar (Vice Chancellor, Geetanjali University) congratulated the organizers and delivered the presidential address. Shri Ajay Phatak (Drug Controller of Rajasthan) graced the occasion as a Chief Guest and emphasized the importance of innovation for improving the delivery of drugs. Dr. M. D. Burande (President-Central, APTI) was the Guest of Honour of this function and he briefed about the future developments of Pharmacy profession and informed about enhanced role of pharmacist in health care. Dr. Kishor Pujari (CEO, Geetanjali Medical College and Hospital) talked about the drugs, pharma market, and position of India in global market. Vote of thanks for the inaugural function was presented by Dr. Kalpesh Gaur (Organizing Secretary).

The key note address was delivered by Dr. Burande on "Attitude to Altitude in Pharmacy Profession". Other speakers and their topics of deliberation included Prof. Jayant J. Khandare (Professor, MAEER's Maharashtra Institute of Pharmacy, Pune) on "Challenges in Designing Innovative Nano/Micro Components for Biological Implications", Prof. Kamla Pathak (Professor and Head, Dept. of Pharmaceutics, Pharmacy College, Uttar Pradesh University of Medical Sciences, Saifai, Etawah) on "Issues in Development of Targeted Nanoparticles Therapeutics". Dr. Farhan Jalees Ahmad (Associate Professor & Head, Faculty of Pharmacy, Jamia Hamdard University, Hamdard Nagar, New Delhi) on "Ophthalmic Drug Targeting Using Nanotechnology Approaches". Dr. Rakesh P. Patel (Associate Dean - Research, Professor and Head of Pharmaceutics & Pharmaceutical Technology Department, Shree S. K. Patel College of Pharmaceutical Education & Research, Ganpat University, Mehsana, Gujarat) on "Cyclodextrin Inclusion Complexes: Methods of Preparation, Characterizations and Its Application In Drug Delivery" Prof. Ambikanandan Misra (Professor, Faculty of Pharmacy, The Maharaja Sayajirao University of Baroda, Vadodara) on "Role of Nanotechnology in Delivery of Protein and Peptides with a



Case Study on Insulin". The last session was on "Lipid Based Colloidal Nano-Carriers as an Upcoming Drug Delivery Platform" by Dr. Rahul Tripathi, (Scientist-B, Department of Pharmaceutics, B.V. Patel Pharmaceutical Education and Research Development Centre (PERD Centre), Ahmedabad).

The conference concluded with the valedictory program. All the working committees performed their function with full devotion and sincerity. The conference can be declared as a success as far as the feedbacks of students and resource persons are considered. The conference deliberated upon the advances in pharmaceutical sciences, breakthrough technologies, evolving regulations and investment strategies in drug delivery for future healthcare.

# PSYCHIATRY RESIDENT'S OUTSTANDING PERFORMANCE IN CME AT PGI, CHANDIGARH

The department of Psychiatry is pleased to announce that its postgraduate residents have made GMCH proud at a CME organized at PGIMER, Chandigarh on August 20-21, 2016. Dr. Amandeep, 3rd year resident was commended for his enthusiastic and constructive participation by the organizers of the CME cum workshop on Attention Deficit Hyperactivity Disorder at the prestigious institute. Dr. Amandeep also received the first prize in the quiz session. The event was attended by about 50 faculty members and 100 PG residents in Psychiatry from various institutes of the country. We extend our heartiest congratulations to Dr. Amandeep.







GEETANJALI INSTITUTE OF PHARMACY