JSS University

Clinical Pharmacy

A Newsletter of Drug and Prescribing Information

Prepared by
Department of Clinical Pharmacy
JSS College of Pharmacy at
JSS Hospital, Mahatma Gandhi Road,
Mysore–570004

Volume 18, Number 2 **May - Aug 2014**

ADVERSE DRUG REACTION REPORTS: JAN-APR 2014

A total of 977Adverse Drug Reactions (ADRs) were reported or detected by the Department of Clinical Pharmacy during January to April 2014. The following are some of the suspected ADRs that were either reported to or detected by the Department of Clinical Pharmacy. In most of the cases there was a change in drug therapy e.g. cessation of suspected drug or reduction in dose, and/or either specific or symptomatic treatment for the suspected ADR.

Amlodipine	Interstitial Nephritis
Ciprofloxacin	Vasculitis
Donepezil	Hyper Salivation
Ebastine	Asthenia
Fluconazole	Fixed Drug Eruption
5 Flurouracil	Excessive Lacrimation
Hydrochlorthiazide	Contact Dermatitis
Mecobalamin	Erythema
Metformin + Glimepiride	Lichen Planus
Pantoprazole	Galactorrhea
Quetiapine	Insulin Resistance Syndrome
Sertraline	Acute Renal Failure
Sevoflurane	Convulsions
Sulfadiazine	Epistaxis
Valproic acid	Acneiform Dermatitis

Metformin + Glimepiride induced Lichen Planus: The mechanism behind Glimepiride induced lichen planus may be the apoptosis of basal keratinocytes with the involvement of inflammatory mediators by long acting sulfonylurea. The reaction is characterized by symmetric eruption of flat-topped, erythematous or violaceous papule. The reaction can be effectively managed by use of topical and systemic corticosteroids. Differentiating the drug-induced lichen planus from the idiopathic disorder is important.

Quetiapine induced Insulin Resistance Syndrome: The mechanisms responsible for quetiapine-induced diabetes remain unclear. Quetiapine may have a direct effect on pancreatic tissue or liver and skeletal muscle tissue, and can worsen insulin resistance independent of body weight change. The results of an oral glucose tolerance test with quetiapine treatment also shows an increase in both serum insulin secretion and plasma glucose levels than before. Another possible mechanism is that Quetiapine can cause body weight gain and, as a result, induce insulin resistance.

5 Fluorouracil (5FU) induced Excessive Lacrimation: Systemic use of 5FU has been associated with numerous ocular side effects manifesting as a variety of ocular surface and/or neuro-ophthalmologic problems. Ocular surface effects include blurred vision, ocular pain, photophobia, excessive lacrimation, blepharitis and keratitis. Excessive lacrimation that resolves shortly after the discontinuation of 5FU therapy is well known and does not lead to permanent sequel.

We encourage you to report all suspected adverse drug reactions to Department of Clinical Pharmacy. Adverse drug reaction reporting forms are available at all nursing stations. Alternatively you may call Department of Clinical Pharmacy on 2548356 or 2548363/4 Extn. 8404 or sms to 07411137840. (Format: ADR/IP or OP Number/ Name of the patient/ Ward)

Oral Ketoconazole and its Risk

Ketoconazole is an anti-fungal medication, sold commercially as a tablet for oral administration, and in a variety of formulations, such as creams and shampoos, for topical administration. There are regulatory issues regarding oral Ketoconazole formulations and its marketing is banned due to hepatotoxic effect in most of the countries. Few countries are in the process of taking regulatory decision. On 26th July 2013, The United States Food and Drug Administration (US FDA) has taken several actions related to Nizoral (Ketoconazole) oral tablets, including limiting the drug's use, boxed warning that it can cause severe liver injuries and adrenal gland problems and advising that it can lead to harmful drug interactions with other medications. As a result, Ketoconazole oral tablets should not be a first-line treatment for any fungal infection in US and it should be used for the treatment of certain fungal infections, known as endemic mycoses, only when alternative antifungal therapies are not available or tolerated. On the same day, The European Medicines Agency's Committee on Medicinal Products for Human Use (CHMP) has recommended that the marketing authorizations of oral Ketoconazole-containing medicines should be suspended throughout the European Union (EU). The CHMP stated that the risk of liver injury is greater than the benefits in treating fungal infections. Based on CHMP recommendation on risk of liver injury for Ketoconazole, Medicines and Healthcare Products Regulatory Agency (MHRA) advised that patients on Ketoconazole in United Kingdom should make a non-urgent appointment with their doctor to discuss alternative treatment.

On 10th October 2013, Australian based Janseen-Cilag, in consultation with Australia's Regulatory Agency (Therapeutics Goods Administration) announced that they discontinuing supply of oral Ketoconazole (Nizoral) 200 mg tablets, commencing from 1st December 2013 due to liver injury. On 19th June 2013, the manufacturers of oral Ketoconazole, in collaboration with Health Canada, informed the healthcare professionals and the public about the revisions to the Product Monograph for Ketoconazole regarding the risk of potentially fatal liver toxicity. Oral Ketoconazole was also withdrawn in Egypt, Vietnam, Ireland and Korea. Sultanate of Oman, Belize, China and Hong Kong are currently in the process of taking a decision for Ketoconazole marketing. All the regulating agents suggested that, topical formulations of Ketoconazole (such as creams, ointments and shampoos) can continue to be used as the amount of Ketoconazole absorbed throughout the body is very low with these formulations.

In India, as of December 2013, only one case of Jaundice has been reported with the use of oral Ketoconazole to Pharmacovigilance Programme of India. Healthcare professionals are advised to monitor the patients treated with oral Ketoconazole for possible liver injury and report ADRs (if any) to ADR monitoring centres for regulatory decisions.

References:

1.http://www.fda.gov/drugs/drugsafety/ucm362415.htm

2.http://www.ema.europa.eu/ema/index.jsp?curl=pages/medicines/human/referrals/Ketoconazolecontaining_medicines/human_referral_000348.jsp&mid=WC0b01ac05805c516f

3. http://healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2013/34173a-eng.php

4. http://www.tga.gov.au/safety/alerts-medicine-oral-ketoconazole-131010.htm#.UzVMoPQSi5M

Bedtime Aspirin may be more Beneficial for Heart Patients

Patients at high cardiovascular risk who took aspirin at night had significantly reduced platelet reactivity compared with those who took aspirin in the morning. The open label study randomized 290 patients with cardiovascular disease to take 100 mg of aspirin either at bedtime or when they woke up in the morning for two to three months period. Blood pressure and morning platelet reactivity were measured at the end of each period. The results indicated that platelet reactivity during morning hours was significantly reduced among patients who took aspirin at bed time and a subsequent preventative effect against cardiovascular diseases may be biologically plausible, it is also unproven. However, there was no significant difference in the blood pressure measurement of patients taking aspirin at night and those taking it in the morning.

References:

1. http://www.ncbi.nlm.nih.gov/pubmedhealth/behind theheadlines/news/2013-11-20-aspirin-at-bedtime-cuts-morning-heart-attack-risk/

2. http://www.heart.org/HEARTORG/News/Global/Simple Science/Bedtime-aspirin-may-reduce-risk-of-morning-heart-attack_UCM_458508_Article.jsp

FDA Recommendation on the Use of Acetaminophen

US FDA is recommending health care professionals (HCPs) to discontinue prescribing and dispensing of combination drug products that contain more than 325 mg of acetaminophen per tablet, capsule, or other dosage unit. There are no available data to show that taking more than 325 mg of acetaminophen per dosage unit provides additional benefit that outweighs the added risks for liver injury. Further, limiting the amount of acetaminophen per dosage unit will reduce the risk of severe liver injury from inadvertent acetaminophen overdose, which can lead to liver failure, liver transplant, and death.

FDA also recommends pharmacists to contact the prescriber to discuss a product with a lower dose of acetaminophen when they receive a prescription for a combination product with more than 325 mg of acetaminophen per dosage unit. A two tablet or two capsule doses may still be prescribed, if appropriate. In that case, the total dose of acetaminophen would be 650 mg (the amount in two 325 mg dosage units). When making individual dosing determinations, HCPs should always consider the amounts of both the acetaminophen and the opioid components in the prescription combination drug product. Risk of severe liver injury is high with patients who took more than the prescribed dose of an acetaminophen-containing product in a 24-hour period; took more than one acetaminophen-containing product at the same time; or drinking alcohol while taking acetaminophen products.

Reference:

http://www.fda.gov/drugs/drugsafety/informationbydrugclass/ucm165107.htm

Analgin is back in the market!

After several months of dawdling on issue of Analgin ban, the Union Health Ministry has finally revoked the ban on pain-killer drug Analgin. This drug was banned on 18th June, 2013 on the plea that the use of Analgin and formulations containing Analgin for human use was likely to cause a sharp fall in white blood cell count, a potentially fatal condition. Safer alternatives to Analgin are available in the market. The revocation subject to the condition that manufacturers shall mention the following on their package insert and promotional literature of the drug: 'the drug is indicated for severe pain or pain due to tumor and also for bringing down temperature in refractory cases when other antipyretics fail to do so'.

Reference:

http://www.pharmabiz.com/NewsDetails.aspx?aid=80942&sid=1

Pharmacovigilance Training Program

Department of Clinical Pharmacy is identified as southern regional resource centre for training and technical support for Pharmacovigilance Program of India (PvPI) by Ministry of Health, Govt. of India. As a part of its activity, Dr.Vijay Chandra Reddy, Assistant Professor of Pharmacology, Santhiram Medical College, Nandyal, Kurnool, Andhra Pradesh underwent orientation program on Pharmacovigilance at Department of Clinical Pharmacy. He was trained on detection, reporting, monitoring and management of adverse drug reaction from 27th to 29th January 2014 with an aim to establish an ADR monitoring centre in their institution.

Dr. Sharath Kumar, Assistant Professor and Dr. Deepthi Sridhar P, Second Year Post Graduate student of Department of Pharmacology, A J Institute of Medical Sciences and Research Centre, Mangalore, Karnataka were trained at our Department from 20th to 22nd March 2014. They underwent training on detection, reporting, monitoring and management of adverse drug reaction with an aim to establish an ADR monitoring centre in their institution.

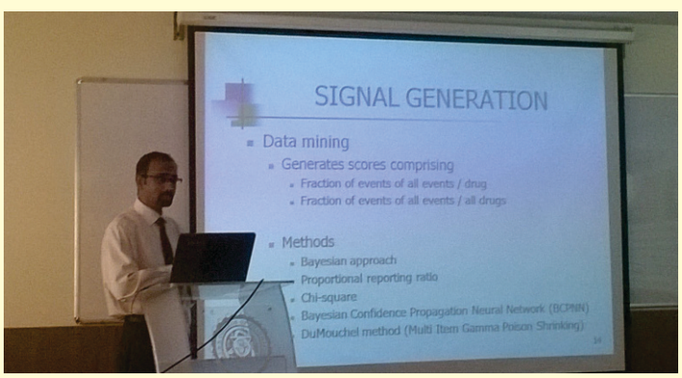
Dr. Sharath Kumar and Dr. Deepthi with Department Staff

Department Activities

During the Academic Educational Society meeting held at JSS Hospital, Mysore on 21st January 2014, Department of Clinical Pharmacy formally released the **Clinical Guideline for the use of Low Molecular Weight Heparin.** Guidelines were prepared by the Department of Clinical Pharmacy in association with Departments of Surgery, Orthopedics, Medicine and Neurosurgery. Dr. H. BasavanaGowdappa, Principal, JSS Medical College, Mysore released the guidelines. Dr.G.Siddesh, Professor & Head, Department of Surgery gave an introductory speech and spoke about the significance of the implementation of guidelines in JSS Hospital. Other guests on the stage were Dr.Manjunath Shenoy (Chairman of Academic Educational Society), Dr.Veeranna (Organising Secretary), Dr.Madhan Ramesh (Head, Department of Clinical Pharmacy), Dr.Suresh Babu, Dr.Kanthraj (Chairpersons), Dr.A.Ramesh (Professor, Department of Clinical Pharmacy) and Dr. M.G.Narahari (Professor, Emergency Medicine). The guideline was prepared to rationalize the use of low molecular weight heparins and thereby enhance the better patient care.

Release of Guideline

Dr. Anand Harugeri, Patient Safety Manager, AstraZeneca, Bangalore visited our department on 8th February 2013 and delivered a guest lecture on 'Signal Detection in Pharmacovigilance'.



Dr. Anand Harugeri delivering a guest lecture

Dr. Milap Nahata, Director, Institute of Therapeutic Innovations and Outcomes, Professor Emeritus, Pharmacy, Pediatrics, Internal Medicine, College of Pharmacy and Medicine, The Ohio State University, Columbus, USA, interacted and gave a lecture to the Pharm.D. students on 18th Feb 2014. He spoke about the increasing number of preventable deaths and their causes which include Smoking, Hypertension, Obesity, Hyperglycemia, Physical inactivity and Hyperlipidemia. Dr. Milap discussed briefly on the health care system in US, including the Government schemes of Medicare for the Geriatric population, Medicaid for the poor people and the introduction of Obama Care. He emphasized on how these health care systems collaborate to reduce the preventable deaths while enhancing the health-related quality of life of the US population.

Dr. Milap Nahata interacting with the students

Dr. Milap Nahata emphasized on the identification and implementation of value based projects in association with the Physicians. The session ended with an open ended discussion platform which involved the active participation of the students and staff.

Mr. Frank May and **Mr. David Cosh** from Drug and Therapeutic Information Services, Repatriation General Hospital, Adelaide, South Australia visited our department on 26th and 27th February 2014. They reviewed the research projects of Post Graduate and Ph.D. students and interacted with the students and staffs of the department.

Frank May and David Cosh with Department Staff

As part of the MoU between **JSS University, Mysore** and **Howard University, USA**, Ms. Porscha T Johnson and Ms. Ree Dotts, Pharm.D students from Howard University, spent 5-weeks at JSS Colleges of Pharmacy, Mysore and Ooty as part of their advanced Pharmacy Practice Experience rotations. During their posting they worked in different departments at JSS Hospital following up the cases on infectious diseases that are uncommon in USA.

Ms. Porscha T Johnson and Ms. Ree Dotts with Department staff and students

Abstracts of Post Graduate Dissertation Work

Impact of diabetes mellitus on the risk of geriatric conditions

A cross-sectional observational study was conducted in a tertiary care teaching hospital to assess the risk of diabetes mellitus (DM) on geriatric conditions (GC) and the effect of gender differences on this association. A total of 1150 elderly patients were included in the study. After adjustment for basic demographics and comorbid conditions, DM was associated with an increased risk of overall geriatric conditions (RR 1.41, 95% CI 1.01-1.96, p = 0.043) and specifically for urinary incontinence (RR 2.91; 95% CI 2.09-4.04, p< 0.001) and visual impairment (RR 1.59; 95% CI 1.16-2.18, p = 0.004). Less risk of lower BMI was observed among diabetics (RR 0.49, 95% CI 0.32-0.77, p = 0.002). In the subgroup analysis, diabetic males were found to have significant risk (RR 1.60; 95% CI 1.05-2.44, p = 0.02) to develop geriatric conditions than female diabetics (RR 1.28; 95% CI 0.71-2.30, p = 0.08).
(Student : Ancy Varghese)

Utilization evaluation of low molecular weight heparins (LMWH) in surgery and orthopedic inpatients

A prospective and retrospective interventional study was carried out in surgery and orthopedic wards of tertiary care teaching hospital to evaluate the utilization pattern of LMWHs and to develop therapeutic guidelines for the rational use of LMWHs. About 303 case records of inpatient were reviewed for the prescribing pattern of LMWHs. The overall appropriateness of LMHRs used in these wards, with respect to the indication (90.3% to 93.4%), dose (59% to 65.8%), frequency (85.8% to 93.5%) and administration (69.6% to 76.3%) showed improvement after implementation of guidelines. Efforts were made to encourage judicious and quality use of LMWHs among practitioners to ensure better patient care by effective implementation of the developed therapeutic guidelines.
(Student : Aby John Ariyappallil)

Adverse drug interactions in elderly hospitalized patients: A prospective analysis

A prospective, intensive and interventional study was carried out to determine the incidence, characteristics, predictors and cost associated with the management of Adverse Drug Interactions (ADI) in patients who were aged 60 years or older and admitted to medicine or surgery wards of tertiary care hospital. Of the 1116 elderly study patients, the incidence of Drug-Drug Interactions (DDI) and ADI was found to be 59.05% and 7.4% respectively. Pharmacodynamic interactions accounted for 73.5% of DDIs. Drugs belonging to ATC codes C and N were most commonly associated with occurrence of ADIs. Most of the ADIs belonged to the system organ class (SOC) 'metabolic and nutritional disorders' [n=46, (51.7%)]. There was significant association between occurrence of ADIs with three or more diagnosed diseases, three or more chronic diseases, administration of >10 medications and >7 days of hospital stay. The average cost incurred per ADI was INR 190.7/-.
(Student : Aswathi Susan George)

A study on pharmacist intervention in assessing drug related problems and net societal cost saving in patients with chronic diseases

A prospective interventional study was carried out in Mysore urban population to assess the prevalence of chronic diseases, and also to assess the incidence and severity of drug related problems in patients with chronic

diseases and net cost savings. Of the total 1210 houses surveyed and 4327 patients interviewed, 304 (7%) patients were found to have chronic diseases. A total of 141 DRPs were identified in the prescriptions of the study patients. It was observed that a sum of rupees 26,200/- can be saved if timely interventions are made.
(Student : A.Y. Uma Manohar Gopal)

Utilization evaluation of chemotherapeutic drugs as adjuvant and neo adjuvant therapy in the management of breast cancer

A prospective study was conducted in a specialty oncology hospital to assess the utilization pattern and appropriateness of anticancer drugs as adjuvant and neo-adjuvant therapy in patients of breast cancer. Of the 100 patients who were followed over six months, anthracycline-based regimens were used more often (92%) compared to Cyclophosphamide, Methotrexate and 5-FU regimen. Selection of chemotherapy regimen was appropriate in 94% patients and cost of therapy was the limiting factor to select an appropriate regimen in remaining patients. Inappropriate administration of drugs was due to excess dilution of drugs (25%) and improper infusion time (29%). Choice of anti-emetics was inappropriate in 38% cases and they were used at higher doses in 35% cases.
(Student : Richard Samuel S.)

A study on utilization pattern of medicines in the management of rheumatoid arthritis

A prospective observational study was conducted in Rheumatology out-patient department of a tertiary care teaching hospital to evaluate the prescribing pattern of disease modifying anti-rheumatic drugs (DMARDs) in the management of rheumatoid arthritis (RA) and to analyze the cost of medication prescribed to RA patients. Among 118 patients data reviewed, Methotrexate was the major drug prescribed either alone or in combination therapy. The amount of DMARDs prescribed in the rheumatology out-patient department during study period was 29.29 DDD/1000 inhabitant-days. The cost associated with the use of medications in the treatment of RA was Rs. 3663/- and a mean ± SD cost per prescription was Rs.407 ± 178/-.
(Student : N Renuka Yella Reddy)

The Drug & Poison Information Service

Our Department can help you with any questions you might have on the use of medicines or the management of poisoned patients. We can also assist you with any medication related problems you face in your daily practice. The services are made available on all working days and it is provided free of cost. We request you to avail the drug and poison information services.

Toll free - 1800-425-0207; 0821-2548363; Extn. 8404 ; E-mail: dic.jsscp@jssuni.edu.in; pic.jsscp@jssuni.edu.in; **Website**: picjsscp.jssuni.edu.in

Your suggestions are welcome. Please send your comments/suggestions to the editors at: dic.jsscp@jssuni.edu.in

Book - Post

To,

_____

_____

_____