HOSPITAL PHARMACY ADMINISTRATION

HPA Newsletter

Volume II, Issue VIII February 2016

Special points of interest:

- Clinical Pharmacy Implementation
- Medication Errors Reporting & Prevention
- Pharmacists Continuous Education
- HPA News & Achievements

Inside this issue:

HPA Latest Updates

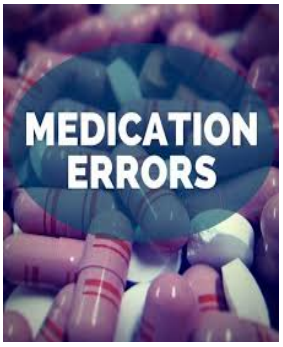
Hospital pharmacy administration in CAPA offering comprehensive training course for elbahar elahmar hospital pharmacist from 7 to 11 February in collaboration with training administration at CAPA , Pharmacists Syndicate and Directorate of Health Affairs under supervision of Pharmacists Syndicate - Red Sea.

Many topics were addressed; the most important topics are the following:

- Clinical pharmacy and medicine management lectures, speaker: dr. motaz abo zyed (clinical pharmacy department manager in shobra elaam hospital).
- Clinical pharmacy practice and DIC lectures, speaker : dr. Omnia Mahmoud (clinical pharmacy coordinator in CAPA).
- Pharmacovigilance lecture, speaker: dr. Mahmoud naser (pharmacovigilance specialistin sohag center).
- Pharmacoeconomics lecture, speaker: Dr. Andrew botros (Pharmacoeconomics coordinator in CAPA).
- Clinical pharmacy Workshop , speakers: dr. noha khalefa (clinical pharmacy inspector in CAPA),dr. yousra salah (clinical pharmacy manager in elagoza hospital).
- Clinical pharmacy follow up inspection lecture , speaker: dr. rehab abd elhady (clinical pharmacy inspector in CAPA).

Hospital pharmacy administration at CAPA is seeking to spread the optimum benefit to all pharmacist throughout governorates and all attendees should show seriousness for attending and learning from the offered training.

Contraindicated drugs given to renally impaired patients.



"Some drugs are contraindicated in moderate to severe renal impairment because of potentially serious effects from drug or metabolite accumulation."

In cases of severe renal impairment, certain drugs are contraindicated, either because they tend to damage the kidneys or because they are insufficiently eliminated by poorly functioning kidneys and will therefore accumulate in the body and cause toxic side effects. About 30% of all adverse effects of medications have either a renal cause or a renal effect while 20% of all hospitalized patients have impaired renal function.[1]

NO HARMe received a large number of medication error reports pertaining to medications prescribed in patients with severe renal impairment despite being contraindicated at this stage. This article summarizes ten of theses reports; 4 reports with Piracetam (Nootropil ®), 2 reports with Metformin (Glucophage ®) and 4 other reports include Meperidine, Fondapxurinex (Arixtra ®), Spironolocatone (Aldactone ®)

Discussion:

1- Piracetam (Nootropil ®) is a renaly excreted nootropic drug used for symptomatic treatment of cognitive/intellectual or memory deficits [2]

We received four medication error reports regarding the use of piracetam in patients with creatinine clearance less than 10 ml/min, 13 ml/min, 20 ml/min and on regular hemodialysis.

Recommendations: Use of Piracetam (Nootropil ®) is contraindicated in patients with creatinine clearance < 20 ml/min.[2]

2- Metformin (Glucophage ®) is an oral hypoglycemic drug.[2]

Two reports received in which Metformin was prescribed to patients with Serum Creatinine 1.8 and 11.9 mg/dl.

Recommendations: Use of Metformin is contraindicated in patients with Serum creatinine (SCr) ≥1.5 mg/dL (males) or ≥1.4 mg/dL (females); or if eGFR <30 mL/minute/1.73 m.[2,2]

Metformin should be withheld in patients with dehydration and/or prerenal azotemia.[3]

Metformin is substantially excreted by the kidney; patients with renal function below the limit should not receive therapy. Metformin has a black box warning with lactic acidosis; The risk of accumulation and lactic acidosis increases with the degree of impairment of renal function.[2,4]

3- Meperidine (Pethidine) is an opioid analgesic .[2]

Prescribing meperidine to a patient with acute renal failure was reported to NO HARMe.

Recommendations: Avoid using meperidine in patients with renal impairment. [2]

The drug is hepaticaly metabolized to meperidinic acid (inactive) or undergoes N-demethylation to normeperidine (active; has 1/2 the analgesic effect and 2-3 times the CNS effects of meperidine). Metabolites are excreted through the urine.[2]

Accumulation of active metabolite normeperidine, leading to agitation and seizures.[4]

4- Fondapxurinex (Arixtra ®) Fondaparinux is a synthetic anticoagulant , One report includes prescribing Fondapurinex to a patient with CrCl < 30 ml/min was received through NO HARMe.

Recommendations: If CrCl <30 mL/minute: Use is contraindicated.[2,4]

5- Spironolocatone (Aldactone ®) is a diuretic diuretic that Competes with aldosterone for receptor sites in the distal renal tubules, increasing Nacl and H2 excretion while conserving potassium and hydrogen ions.[2]

It was reported that the drug was prescribed to a patient with eGFR is 21 ml/min/1.73m²

Recommendations: Not recommended when eGFR <30 mL/minute/1.73 m2. Also contraindicated for patients with anuria, acute renal insufficiency, significant impairment of renal excretory function and hyperkalemia. [2,3]

How to Avoid This Medication Error:

- Renal function should be initially assessed and continuously monitored for hospitalized patients, close monitoring is important especially in older patients and those with risk factors for worsening renal function or kidney disease.[5]
- The results of patients renal function should be documented in the patient file and available for clinicians during prescribing.
- Drug information pertaining to renal dose adjustments and contraindications should be readily available for prescribers.
- A multidisciplinary cooperation between physicians and clinical pharmacists for adjustment of medication doses and/or selection of medications in patients with renal insufficiency can help reduce errors and poor outcomes. [5]

References:

1. Bertram Hartmann F. Drug Therapy in Patients With Chronic Renal Failure. Deutsches Ärzteblatt International [Internet]. 2010 [cited 1 February 2016];107(37):647. (Click Here)
2. Online.lexi.com. Login [Internet]. 2016 [cited 1 February 2016]. (Click Here)
3. Drugs.com. Drugs.com | Prescription Drug Information, Interactions & Side Effects [Internet]. 2016 [cited 1 February 2016]. (Click Here)
4. Medscape.com. Latest Medical News, Clinical Trials, Guidelines – Today on Medscape [Internet]. 2016 [cited 1 February 2016]. (Click Here)
5. Bradley M. Wright B. I look at errors related to pharmacotherapy in patients with renal insufficiency. | ConsultantLive [Internet]. Consultantlive.com. 2016 [cited 1 February 2016]. (Click Here)

Ischemic Stroke Case

Embaba hospital

Presenting Complaint:
Mr. ST is a 60 years old male patient, 75 kg, He was admitted to the ICU on 30/1/2016 suffering from disturbed conscious level.

Diagnosis:
Ischemic stroke

Patient History:
Having Medical History of HTN, DM, IHD, dehydration

Medication History:
Ator, Aspocid, capoten

Subjective:
The patient was suffered from:
confusion, trouble speaking, right side weakness, Fits.

Objective:
1. Laboratory Investigation:
   Hb 12 u/L, **WBCs** 10*10³ µL, **Platelets** 150/ µL, **Na** 135 mEq/L, **K** 4.5 mEq/L, **S. Cr** 1 mg/dL, **Random Blood Glucose :** 110
2. Physical Examination:
   Vital Signs: **BP:** 140/90, **HR :**80, **R.R :** 18 breath/min, **L.L.(Lower limb):** No edema,
3. C.T scan :
   Brain: ischemic stroke
4. Diagnosis:
   Ischemic stroke

Assessment:
Pharmaceutical related problems:
1. Ischemic stroke
2. Ischemic heart disease
3. DM

Problem 1: Treatment of Ischemic stroke:
Etiology:
Ischemic strokes result from events that limit or stop blood flow, such as extracranial or intracranial thrombotic embolism, thrombosis in situ, or relative hypoperfusion. (Click Here)

Current Therapy:
Levofloxacin 2gm /24hr
Aspocid 75mg 2 tab/24hr
Fraxiparin 0.3ml/24hr
Capoten 25mg/8hr
Nitroderm patch 16hr/24hr
Zantac 50mg vial/8hr
Vastarel MR cap./12hr
Somazina syrup 15cm/12hr
Regular insulin acc. to the table/8hr

Therapy Indicated: (Click Here)

Plan:
Problem 1: Treatment of Ischemic stroke:
Therapeutic Objective:

- Fibrinolytic therapy administered 3-4.5 hours after symptom onset was found to improve neurologic outcomes .
- aspirin, (AHA/ASA)325 mg orally, within 24-48 hours of ischemic stroke onset.
- according to the 2013 ASA guidelines, are blood pressure higher than 220 /120mm Hg ,In those patients, a reasonable goal is to lower blood pressure by 15% during the first 24 hours after onset of stroke.
- Seizures occur within the first days after ischemic stroke. These seizures are usually focal, but they may be generalized [1]

Interventions:

- Fibrinolytics are contraindicated in B.P higher than 185 /110mm Hg, history of prior intracranial bleeding ,taking heparin within 48 hours
- streptokinase in patients with acute ischemic stroke has been shown to increase the risk of intracranial hemorrhage and death [2]

Monitoring Parameters:
C.T scan, MRI

Clinical Pharmacist Intervention:
Problem 1: Treatment of Ischemic stroke:

- Antihypertensive drug (Capoten) should not be given in the first 2 days of acute ischemic-stroke.
- Antiepileptic drug should be given as patient has fits .

Patient Education:
Patient counseling for the following:

- Stop smoking.
- maintain normal blood pressure &diabetes
- limit saturated fat and cholesterol intake
- get regular exercise[3]

Quiz:

1. **What is the drug that should not be given to this patient from current medication?**
   A. zantac
   B. levofloxacin
   C. vastarel
2. **What is the cause of not giving the above drug ?**
   A. TachyCardia
   B. Decrease conscious level .
   C. Bleeding
3. **Do you have any further recommendations?**
   Please, contact us at:
   hosprx@eda.mohealth.gov.eg

References:
1.Emedicine.medscape.com. Ischemic Stroke Treatment & Management: Approach Considerations, Emergency Response and Transport, Acute Management of Stroke [Internet]. 2016 [cited 14 February 2016]. (Click Here)
2.Emedicine.medscape.com. Ischemic Stroke Treatment & Management: Approach Considerations, Emergency Response and Transport, Acute Management of Stroke [Internet]. 2016 [cited 14 February 2016]. (Click Here)
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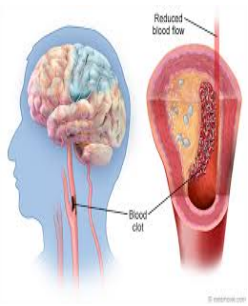
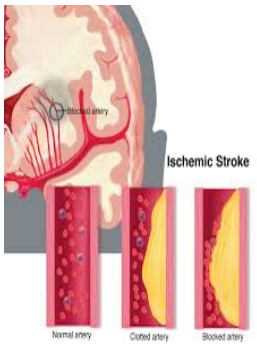
Clinical Pharmacy



"Ischemic strokes account for about 87% of all strokes ."



Last Month Quiz Answers

1. B

2. A

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Zika virus outbreak !!

Zika virus disease outbreaks were reported for the first time from the Pacific in 2007 and 2013 (Yap and French Polynesia, respectively), and in 2015 from the Americas (Brazil and Colombia) and Africa (Cape Verde). In addition, more than 13 countries in the Americas have reported sporadic Zika virus infections indicating rapid geographic expansion of Zika virus.

Introduction Zika virus is an emerging mosquito-borne virus that was first identified in Uganda in 1947 in rhesus monkeys through a monitoring network of sylvatic yellow fever. It was subsequently identified in humans in 1952 in Uganda and the United Republic of Tanzania. Outbreaks of Zika virus disease have been recorded in Africa, the Americas, Asia and the Pacific.

Genre: Flavivirus

Vector: Aedes mosquitoes (which usually bite during the morning and late afternoon/evening hours)

Reservoir: Unknown

Signs and Symptoms The incubation period (the time from exposure to symptoms) of Zika virus disease is not clear, but is likely to be a few days. The symptoms are similar to other arbovirus infections such as dengue, and include fever, skin rashes, conjunctivitis, muscle and joint pain, malaise, and headache. These symptoms are usually mild and last for 2-7 days

Transmission Zika virus is transmitted to people through the bite of an infected mosquito from the Aedes genus, mainly Aedes aegypti in tropical regions. This is the same mosquito that transmits dengue, chikungunya and yellow fever.

Treatment Zika virus disease is usually relatively mild and requires no specific treatment. People sick with Zika virus should get plenty of rest, drink enough fluids, and treat pain and fever with common medicines. If symptoms worsen, they should seek medical care and advice. There is currently no vaccine available.

Prevention Mosquitoes and their breeding sites pose a significant risk factor for Zika virus infection. Prevention and control relies on reducing mosquitoes through source reduction (removal and modification of breeding sites) and reducing contact between mosquitoes and people.

This can be done by using insect repellent; wearing clothes (preferably light-coloured) that cover as much of the body as possible; using physical barriers such as screens, closed doors and windows; and sleeping under mosquito nets. It is also important to empty, clean or cover containers that can hold water such as buckets, flower pots or tyres, so that places where mosquitoes can breed are removed.

Special attention and help should be given to those who may not be able to protect themselves adequately, such as young children, the sick or elderly.

During outbreaks, health authorities may advise that spraying of insecticides be carried out. Insecticides recommended by the WHO Pesticide Evaluation Scheme may also be used as larvicides to treat relatively large water containers.

Travellers should take the basic precautions described above to protect themselves from mosquito bites.

For further details , please (Click Here)

"Zika virus can be passed from a mother to her fetus during pregnancy causing congenital microcephaly ."

HOSPITAL PHARMACY ADMINISTRATION

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Our Newsletter

The Hospital Pharmacy Administration Newsletter aims to publicize up-to-date news, information, resources, and recent healthcare topics that have an impact on the patient's quality of care in addition to practices serving physicians and pharmacists. A main goal of this publication is to send our news and updates on health care drug related issues, recently reported and have direct impact on Clinical and Hospital Pharmacy practice in Egypt.

Hospital Pharmacy Administration (HPA)

Vision

To implement and spread clinical awareness among our hospital pharmacists to ensure better patient quality of care.

Mission

To manage and assure that hospital pharmacists meet each individual patient's drug-related needs through provision of pharmaceutical care services.

Goals and Objectives

Increase awareness of hospital Pharmacists on the importance of applying clinical knowledge in their pharmacy practice through:

- Plotting an appropriate pharmaceutical care plan for each patient according to his medication use strategy.
- Helping healthcare team through promptly responding to drug information requests.
- Integrating patient counseling into the process of dispensing.

NO HARMe

NO HARMe is a national voluntary medication error and 'near miss' reporting program founded for the purpose of sharing the learning experiences from medication errors. Implementation of preventative strategies and system safeguards to decrease the risk for error-induced injury and thereby promote medication safety in healthcare is our collaborative goal.

NO HARMe guarantees confidentiality and security of information received

To report a medication error to NO HARMe:

- Visit our website: www.eda.mohealth.gov.eg or,
- Email us at: medication.errors.system@gmail.com

WHEREVER THE ART OF MEDICINE IS LOVED, THERE IS ALSO A LOVE FOR HUMANITY