



**HOSPITAL
PHARMACY
ADMINISTRATION**



**Special points of
interest:**

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

Inside this issue:

- HPA latest updates |
- Vancomycin was prescribed to treat febrile patient without specifying the rate of infusion 2
- Hepatic Encephalopathy- Case Report 3
- Asthma Patient Care: The Pharmacist's Perspective 4

HPA Newsletter

HPA latest updates

Hospital Pharmacy Administration and Inspection Teams visited many hospitals for the aim of evaluating and following up clinical pharmacy practice in MOH hospitals.

The first visit was to National Medical Institute in Damnhor and it is one Educational Institute Sector Hospitals in Damnhor which is implementing clinical pharmacy practice in ICU, Kidney and Neonatal Units. Moreover, NMI is currently putting an Antimicrobial Biogram based on patient hospital lab values and interpretations.

The second visit was to Alahrar General Hospital in Sharqia which is implementing clinical phar-

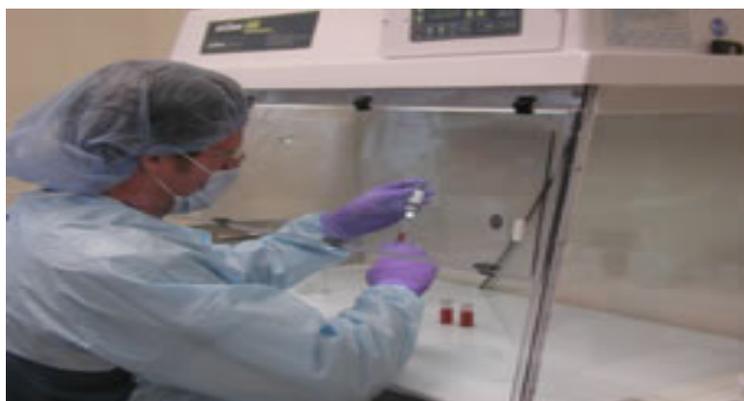
macy services in ICU and all clinical pharmacy activities are documented in a well-established electronic documentation system. Not only this but also, the hospital is looking forward for giving credible international clinical pharmacy training to pharmacist (for example ACPE Training).

Last but not least, our visit to general domiat hospital and attending scientific day presenting clinical pharmacy activities was fruitful. In GDH, clinical pharmacist implemented TPN practice in neonatal unit.

All clinical pharmacists in the above mentioned hospitals depend on credible sources to be updated with current and latest treatment guide-



General Domiat Hospital Team





Vancomycin was prescribed to treat febrile patient without specifying the rate of infusion

NO HARMe received a medication error report concerning a febrile patient who was prescribed Vancomycin to treat soft tissue infections without determining the rate of infusion.

Vancomycin is indicated in potentially life-threatening infections which cannot be treated with other effective, less toxic antimicrobial drugs, including the penicillin's and cephalosporin's.

Vancomycin is useful in the therapy of severe staphylococcal infections in patients who cannot receive or who have failed to respond to the penicillin's and cephalosporin's, or who have infections with staphylococci resistant to other antibiotics. ⁽²⁾

Infusion-related adverse events are related to both concentration and rate of administration of Vancomycin.

Concentrations of no more than 5mg/ml are recommended. In selected patients in need of fluid restriction, a concentration up to 10mg/ml may be used; use of such higher concentrations may increase the risk of infusion-related events. Infusions should be given over at least 60 minutes. In adults, if doses exceeding 500 mg are used, a rate of infusion of no more than 10mg/min is recommended. Infusion-related events may occur, however, at any rate or concentration. ⁽²⁾

Discussion:

IV vancomycin is an irritant; ensure proper needle or catheter placement prior to and during infusion; avoid extravasation. Pain, tenderness, and necrosis may occur with extravasation. ⁽¹⁾

Rapid bolus administration (e.g., over several minutes) may be associated with exaggerated hypotension, including shock, and, rarely, cardiac arrest. Vancomycin should be infused in a dilute solution over a period of not less than 60 minutes to avoid rapid infusion-related reactions. Stopping the infusion usually results in a prompt cessation of these reactions. ⁽²⁾

Red man syndrome may occur if the infusion is too rapid. It is not an allergic reaction, but may be characterized by hypotension and/or a maculopapular rash appearing on the face, neck, trunk, and/or upper extremities. If this should occur, slow the infusion rate to over 1.30 to 2 hours and increase the dilution volume. Reactions are often treated with antihistamines and steroids.

“Red man syndrome may occur if the infusion rate of Vancomycin is too rapid.

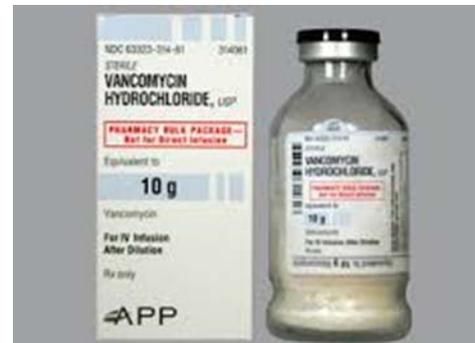


How to Avoid This Medication Error:

- i. Administer Vancomycin (I.V) with a final concentration not to exceed 5 mg/mL by IV intermittent infusion over at least 60 minutes (recommended infusion period of ≥ 30 minutes for every 500 mg administered). Not for IM administration.
- ii. Extravasation management: If extravasation occurs, stop infusion immediately and disconnect (leave cannula/needle in place); gently aspirate extravasated solution (do **NOT** flush the line); remove needle/cannula; elevate extremity. Apply dry cold compresses (Hurst, 2004). ⁽¹⁾

References:

1. Online.lexi.com. Lexicomp Online Login [Internet]. 2015 [cited 3 September 2015]. ([Click Here](#))
2. Medicines.org.uk. Vancomycin Ig Powder for Solution for Infusion - Summary of Product Characteristics (SPC) - (eMC) [Internet]. 2015 ([Click Here](#))



Hepatic Encephalopathy- Case Report

Ahmed Maher Hospital

Presenting Complaint:

M.F is a 61 years old male admitted with signs of Drowsiness, disturbed conscious level and slurred speech since 17/10/2014 .

Diagnosis:

Hepatic Encephalopathy.

Patient History:

patient known to be hepatic with previous HE , RI & Bronchial Asthma (smoker).

Medication History:

Farcolin tablet one tablet t.d.s, Hepa-merz two tablet t.d.s,

Subjective:

The patient was suffered from: eye jaundice , hiccup , lower limb edema, minimal ascites

Objective:

1. Laboratory Investigation:

Hb 8.9 g/dL , **RBCs** 3.24/ μ L, **WBCs** 13.5 10^3 / μ L, **Platelets** 199/ μ L, **Sodium** 135 mEq/L , **Potassium** 4.8 mEq/L , **Ca** 3.13 mg%, **S. Cr** 3.1 mg/dL , **INR** 1.2, **PH** 7.28, **PCO2** 23 mmHg, **PO2** 135 mmHg, **BICARB.** 10.8 mm/l, **Urine output** 500 ml/day.

2. Physical Examination:

Vital Signs:

GEN: B.P: 110/70 mmHg, **Temp.:** 37 °C, **RR:** 17 breaths/min, **H.R** 80 bpm, **LL:** Lower limb edema,

3.U.S Abdomen:

X-ray liver cirrhosis and splenomegaly.

4.Diagnosis:

HE grade 2

Assessment:

Treatment +Maintenance of remission of HE

Treatment of Dehydration

Treatment of Metabolic acidosis

Problem I:Treatment of HE:

Etiology: May be due to:

- I. Ammonia, which is produced by the body when proteins are digested, is one of the substances normally made harmless by the liver. Other toxins may also build up. These things can cause damage to the nervous system. ([Click Here](#))

Current Therapy:

- I. lactulose enema /8hr on day 18, 19 and stopped when conscious level improved
- II. Lactulose 30cm syr. /8 hr

Therapy Indicated: ([Click Here](#))

Plan:

Problem I: Treatment of HEI:

Therapeutic Objective:

- Precipitants of hepatic encephalopathy, such as hypovolemia, metabolic disturbances, gastrointestinal bleeding, infection, and constipation, should be corrected.
- treat the hyperammonemia that is a hallmark of most cases of hepatic encephalopathy.
- antibiotics reduce the amount of toxins produced in your body ⁽²⁾

Interventions:

- need to avoid sedatives, tranquilizers that are broken down by the liver and Medicines containing ammonium (including certain antacids). ^{(1), (2)}

Monitoring Parameters:

- Serum ammonia levels

Clinical Pharmacist Intervention:

Problem I: Treatment of HEI:

The recommended dosing is 300 mL lactulose plus 700 mL water, administered as a retention enema every 4 hours as needed.

Patient Education:

Patient counseling for the following:

1. Smoking prior to blood collection will increase levels
2. Strenuous exercise prior to blood collection may increase ammonia levels
3. patients with mild chronic hepatic encephalopathy tolerate more than 60-80 g of protein per day. ⁽²⁾

Quiz:

1. What other treatment used in HE?

- A. Vancomycin
- B. Rifaximine
- C. Fluconazole

2. What is suspected cause of metabolic acidosis ?

3. Do you have any further recommendations?

Please, contact us at:

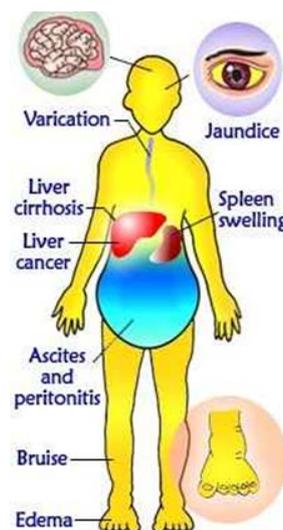
hosprx@eda.mohealth.gov.eg

References:

1. Updated by: George F. Longstreth a. Hepatic encephalopathy: MedlinePlus Medical Encyclopedia [Internet]. Nlm.nih.gov. 2015 [cited 7 September 2015]. ([Click Here](#))
2. Emedicine.medscape.com. Hepatic Encephalopathy: Definition, Pathogenesis, Clinical Features of Hepatic Encephalopathy [Internet]. 2015 [cited 7 September 2015]. ([Click Here](#))



“Hepatic encephalopathy is the loss of brain function that occurs when the liver is unable to remove toxins from the blood.”



MEDICAL-09-LH

Last Month Quiz answers

1. A

2. A

Note: last month case was from Dar Ismail hospital—Alex

Egyptian Scientific Publication:
Asthma Patient Care: The Pharmacist’s Perspective

Rana Rasheed Farrag1, Mamdouh Ahmed Zaki1, Taher El-Naggar2, Manal El-Hamamsy3*



ABSTRACT Aim of the Study: To compare effect of asthma care by pharmacist intervention versus routine care on asthma control. Patients and Methods: A 2-month randomised, controlled trial was conducted in outpatient clinics of Ain Shams University Hospitals, Cairo, Egypt. Patients were randomly assigned to receive routine care or a pre-defined pharmacist intervention. This intervention was mainly focused on patient education, improving inhalation technique and medication assessment. Primary outcome was the level of asthma control, as assessed by the Asthma Control Questionnaire (ACQ). Results: By the end of the study, intervention patients who received a written action plan significantly improved their ACQ results than routine care group who did not receive a plan ($p < 0.0001$). Inhalation technique and adherence to controller medication were significantly better in the intervention group. Conclusion: The present study results provide support-

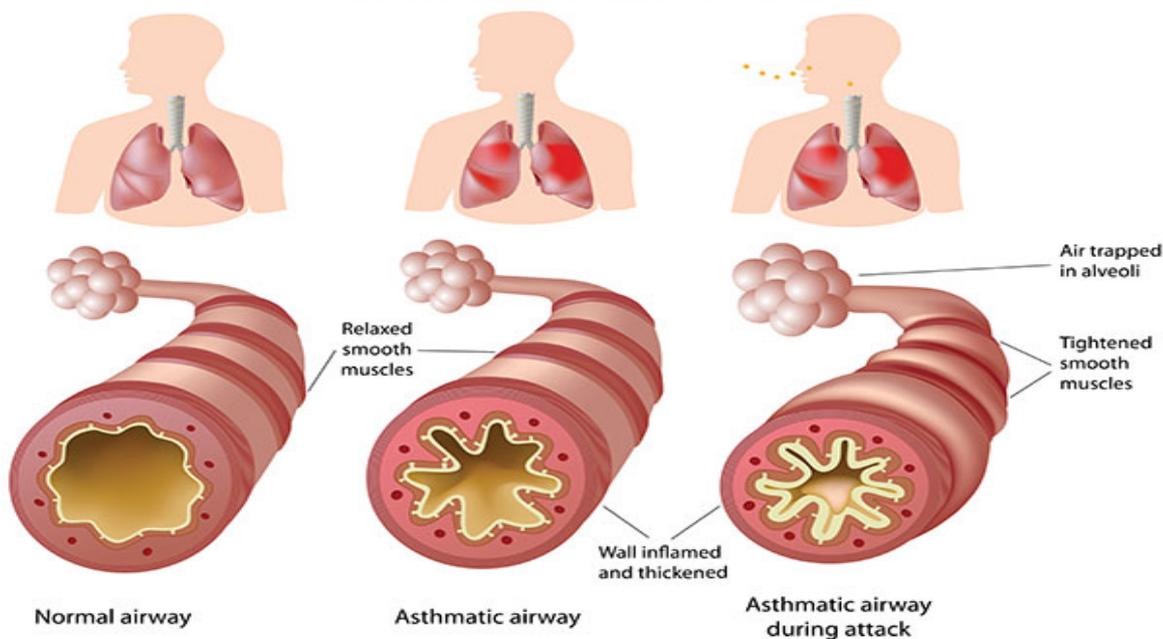
ive evidence concerning pharmacists’ favourable effects on asthma patient care and support pharmacists as valuable members of the health care team.

To read the full article, please [\(Click Here\)](#)



“Asthma is an inflammatory disorder of the airways characterized by paroxysmal or persistent symptoms such as dyspnea, chest tightness, wheezing, sputum production and cough”

Asthma and Your Airways





HOSPITAL PHARMACY ADMINISTRATION



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HPA

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.

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

NO HARMe guarantees confidentiality
and security of information received



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

