PHARMACY BULLETIN
BIL 2/2019
MAY - AUGUST

SPECIAL TOPIC

METHANOL POISONING

WHAT'S INSIDE?

PUBLISHED BY
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HOSPITAL TENGKU AMPUAN AFZAN,
KUANTAN, PAHANG

HTAA NEW PHARMACY STAFF 2019

Transferred In

- SYARIFAH SYAFIQAH BT T. SYED MANSO
- PEGAWAI FARMASI UF48
- DATE REPORTED DUTY: 13 MAY 2019
- TRANSFERRED FROM KLINIK KESIHATAN JAYA GADING
- FARMASI BEKALAN WAD

- TAAMARAISELVI A/P RAJENDRAN
- PEGAWAI FARMASI UF41 (KONTRAK)
- DATE REPORTED DUTY: 15 JULY 2019
- TRANSFERRED FROM HOSPITAL TEMERLOH
- FARMASI SATELIT

- RAIZ RASYID B MOHAMED IQUBAL
- PEGAWAI FARMASI UF41
- DATE REPORTED DUTY: 24 JULY 2019
- TRANSFERRED FROM KLINIK KESIHATAN GAMBANG
- FARMASI BEKALAN WAD

- NG GHIA CHEE
- PEGAWAI FARMASI UF41
- DATE REPORTED DUTY: 24 JULY 2019
- TRANSFERRED FROM KLINIK KESIHATAN BIDOR, PERAK
- FARMASI SATELIT

HTAA NEW PHARMACY STAFF 2019

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- MOHAMAD AZWAN BIN MASTAPAR
- PEGAWAI FARMASI UF44
- DATE REPORTED DUTY: 26 AUGUST 2019
- TRANSFERRED FROM KLINIK KESIHATAN JAYA GADING
- FARMASI BEKALAN WAD

Transferred Out

- HELINA BT ABDUL HALIM
- PEGAWAI FARMASI UF54
- DATE TRANSFERRED OUT: 13 MAY 2019
- TRANSFERRED TO KLINIK KESIHATAN JAYA GADING

Htaa Internal Reshuffle

- RAIHANA BT ABDUL RAHMAN
- PEMBANTU TADBIR N22
- RESHUFFLED FROM UNIT PENGURUSAN
- DATE OF RESHUFFLE: 2 MAY 2019

HTAA NEW PHARMACY STAFF 2019

Htaa Internal Reshuffle

- ROSLI BIN DOLLAH
- PEMBANTU PERAWATAN KESIHATAN U11
- RESHUFFLED FROM ORKID 8C WARD
- DATE OF RESHUFFLE: 13 MAY 2019

- HAMIDI BIN HASHIM
- PEMBANTU PERAWATAN KESIHATAN U11
- RESHUFFLED FROM ICU 2 WARD
- DATE OF RESHUFFLE: 13 MAY 2019

- AMRAN BIN ABDUL RAHMAN
- PEMBANTU PERAWATAN KESIHATAN U14
- RESHUFFLED TO PEJABAT PENYELIA
- DATE OF RESHUFFLE: 8 MAY 2019

- MAZALIANA BT MAHUSIN
- PEMBANTU TADBIR N19
- RESHUFFLED TO JABATAN PEDIATRIK
- DATE OF RESHUFFLE: 17 MAY 2019

HTAA NEW PHARMACY STAFF 2019

Htaa Internal Reshuffle

- SITI KAMARIAH BT ROSDI
- PEMBANTU TADBIR N19
- RESHUFFLED TO JABATAN ORTOPEDIK
- DATE OF RESHUFFLE: 17 MAY 2019

Resigned

- CHUA BOON YI
- PEGAWAI FARMASI UF44
- DATE RESIGNED: 31 MAY 2019

- MAIVIZHI SELVI A/P MV RAJENDRAM
- PEGAWAI FARMASI UF41 (KONTRAK)
- DATE RESIGNED: 24 JULY 2019

- NUR ATHIRAH BT MOHAMAD IDRIS
- PEGAWAI FARMASI UF41 (KONTRAK)
- DATE RESIGNED: 30 AUGUST 2019

HIGH ALERT MEDICATIONS: SAFE USE OF OPIOIDS IN LABOUR PAIN

Prepared by Alya Nur Zahrah

PAIN RELIEF IN LABOUR

Childbirth is usually a painful experience. There is a range of options for pain relief in labour such as nitrous oxide, parenteral opioids and epidural anaesthesia.

Although opioids have been used in obstetrics for over 100 years, sufficient evidence for their efficacy and safety is lacking. It should be advised that opioids will not remove pain completely but may enable some women's ability to manage labour more comfortably. The most frequently used opioid medications are morphine, fentanyl, nalbuphine and pethidine.

The administration of opioid during labour should not be taken lightly due to potential risks.

Opioids need to be used with caution in preterm labour as the preterm newborn is more sensitive to the depressant effects of narcotics and may develop respiratory depression.

What are the potential side effects of opioids?

Mothers can experience:

- Nausea and vomiting
- Itchiness
- Dizziness
- Sedation
- Decreased gastric motility
- Loss of protective airway reflexes
- Hypoxia due to respiratory depression

Opioids cross the placenta and can produce side effects in baby:

- Central nervous system depression
- Respiratory depression
- Impaired early breastfeeding
- Altered neurological behaviour
- Decreased ability to regulate body temperature

OPIOIDS USE DURING LABOUR PAIN

Morphine was first introduced in obstetrics in the early 20th century. Intramuscular (IM) morphine acts in 15-20 minutes, has a peak effect of 40-50 minutes with total 3-4 hours duration of effect. Its usual initial dose is IM Morphine 10-15 mg or IV bolus 3-5 mg, repeated at 10 minutes interval PRN to give 1-2 hours of pain relief. Morphine has similar or increased analgesic effect, less nausea, and fewer significant side effects for the neonate when compared to Pethidine (1). As morphine is more sedating and has a longer half-life than fentanyl, it should probably be reserved for early labour analgesia.

Fentanyl is a short-acting opioid administered intravenously with a duration effect of <1 hour. The recommended initial dose is 0.5-2.0 mcg/kg, up to 4 mcg/kg (maximum: 400mcg) in which dose may be repeated every 10 minutes. However, fentanyl is a very potent respiratory depressant so its use is contraindicated in respiratory compromised patients (e.g. severe asthma, cystic fibrosis) (1).

Nalbuphine is considered to be equipotent to morphine. Its initial dose is IM Nalbuphine 15-20 mg. The onset of action is within 15 minutes following IM injection, peak effect is in 30 minutes and effect duration is 3-4 hours. Placental transfer is high. Fetal and neonatal adverse effects have been reported, including fetal bradycardia, respiratory depression at birth, apnea, cyanosis and hypotonia (1). Nalbuphine does not appear to offer any benefit over other opioids for labour analgesia.

Pethidine has a duration effect of 2-4 hours with relatively long maternal and neonatal half-lives of 8 hours and 22 hours respectively. Its active metabolite can decrease neonate's seizure threshold and contributes to disturbed sleep wakefulness. The baby's sucking and other normal reflexes may also be depressed (2). When compared to morphine and fentanyl, pethidine is associated with increased side effects therefore it is not recommended for obstetrical analgesia and should only be used in the case of true morphine allergy (1). The usual initial dose is 75-150 mg and should not be given within 4 hours of delivery to avoid placental transfer and risk of neonatal respiratory depression.

Naloxone (opioid antagonists) should be readily available for administration to the neonate ifor reversal of opioid effects (e.g. respiratory depression). The suggested dose is IV 0.01 mg/kg/dose up to 0.1 mg/kg/dose (full reversal), repeat every 2 to 3 minutes if needed.

1. British Columbia Perinatal Health Program, (2007). ***Obstetric Guideline 4: Pain Management Options During Labour***. [online] Available at: http://www.perinatalservicesbc.ca/Documents/Guidelines-Standards/Maternal/PainManagementGuideline.pdf. [Accessed 19 Aug. 2019]
2. National Health Service (2017). **Pain Relief in Labour**. [online] Available at: https://www.nhs.uk/conditions/pregnancy-and-baby/pain-relief-labour/ [Accessed 19 Aug. 2019]

METHANOL POISONING

Prepared by: SYAKIRAH BINTI AHMAD HAMEDON

INTRODUCTION

Methanol, also known as wood alcohol is an organic solvent used as a constituent of many commercially available industrial solvents and in poorly adulterated alcoholic beverages. Methanol could cause toxicity such as metabolic acidosis, neurologic sequelae, and even death when ingested. [1].

MECHANISM OF TOXICITY

- ❑ As shown in Figure 1, Methanol undergoes serial oxidation, catalysed by enzymes which then produce formic acid.[2].
- ❑ Formic acid is an inhibitor of the mitochondrial cytochrome oxidase causing histotoxic hypoxia and acid loads. When the body burden of formate in methanol poisoning is high enough, it could cause acidosis and other clinical symptoms. [3].

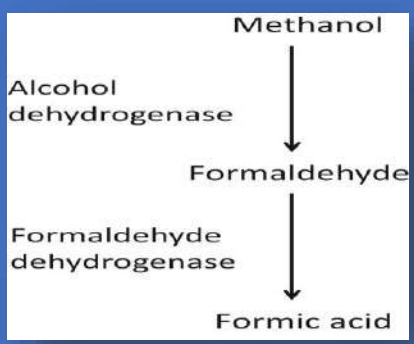


Figure 1: Methanol Metabolism. Adapted from; Kraut, J. A. (2016). Approach to the treatment of methanol intoxication. American Journal of Kidney Diseases, 68(1), 161-167.

SOURCE OF POISONING

- ❑ **METHODS OF DISSEMINATION**:
  - ✓ **Indoor/outdoor Air**: Methanol can be released into indoor/outdoor air as a liquid spray (aerosol).
  - ✓ **Food/Water**: Methanol may be used to contaminate food/water.
  - ✓ **Agricultural**: If methanol is released into the air as a liquid spray (aerosol), it has the potential to contaminate agricultural products.
- ❑ **ROUTES OF EXPOSURE**:

Methanol can be absorbed into the body by inhalation, ingestion, skin contact, or eye contact. Ingestion is an important route of exposure and can cause toxicity as compared to other routes.

MANIFESTATIONS OF TOXICITY

- ❑ Methanol toxicity worsens as the degree of metabolic acidosis increases, and thus becomes more severe as the time between exposure and treatment increases [5].
- ❑ **Neurological:** Headache, dizziness, agitation, acute mania, amnesia, loss of consciousness, coma and seizure.
- ❑ **Gastrointestinal:** Nausea, vomiting, severe abdominal pain, GI Bleeding, diarrhea, transaminitis and pancreatitis.
- ❑ **Ophtalmologic:** Visual disturbances, blurred vision, photophobia, misty vision, partial to total loss of vision.

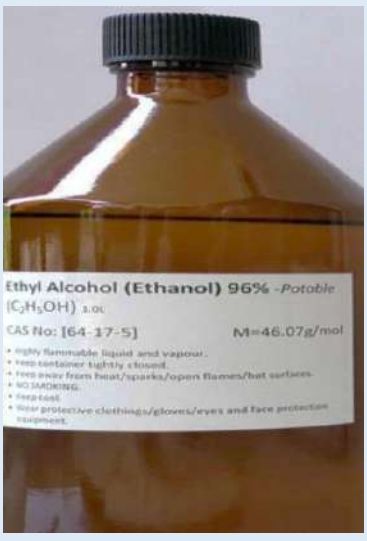
GOAL OF TREATMENT

- ❑ To correct metabolic and fluid abnormalities
- ❑ To prevent the conversion of methanol to toxic metabolites (formic acid)
- ❑ To rapidly remove the toxic metabolites

GENERAL MANAGEMENT

- ❑ Initial treatment is primarily **supportive** of respiratory and cardiovascular function.
- ❑ **IV Sodium Bicarbonate** to correct acidosis to the normal normal range (7.35 – 7.45).
- ❑ **ANTIDOTES**: **Fomepizole or ethanol** should be administered intravenously as soon as possible to block the conversion of methanol to formic acid and prevent acidosis.
- ❑ **Folinic acid (leucovorin)** should also be administered intravenously to increase the rate at which formate is metabolized into less toxic chemicals

PHARMACOLOGICAL TREATMENT

AGENTS & MOA	LOADING DOSE	MAINTENANCE DOSE
1) ETHANOL  Acts through competitive inhibition and binds with 10 folds affinity towards Alcohol Dehydrogenase (ALDH). This helps delay methanol metabolism until the methanol is eliminated from the body either naturally or via dialysis. When catalysed, Ethanol produce metabolites which are far less toxic than Formic Acid [9]. **ANTIDOTE ENDPOINT!** Until Methanol level cannot be detected and metabolic acidosis has been resolved.	**IV** (Not available in HTAA) **:** 600 - 700mg/kg or 7.6 - 8.9ml/kg of **10% v/v Ethanol** administer over 30 - 60 minutes as tolerated, via central vein[6]. **ORAL :** 600 - 700mg/kg or 3.8 – 4.4mL/kg of **20% v/v ethanol** diluted in juice administered orally or via nasogastric tube, given hourly. [6] **DILUTION TECHNIQUE FOR ORAL PREPARATION AVAILABLE IN HTAA** Dilute oral Ethanol from 96% v/v to <20% v/v with water, juice or dextrose 5% to reduce risk of gastritis. **How to dilute oral ethanol 96% to 20%:** 1. Measure 100mL of Ethanol 96% (it contain 96ml of ethanol) and put into suitable container. 2. Add water/juice/dextrose 5% to the ethanol, and made up/qs to 480ml. 3. Mix the solution until homogenous. *Unused balance should be discarded **(Each 1ml of 96% v/v Ethanol must be diluted to total volume of 4.8ml to produce solution of 20% v/v)**	**Non-drinker** **IV (10% v/v):** 66mg/kg/hr or 0.83ml/kg/h **Oral (20% v/v):** 66mg/kg/hr or 0.42ml/kg/h **Chronic Alcoholic** **IV (10% v/v):** 154mg/kg/hr or 1.96ml/kg/h **Oral (20% v/v):** 154mg/kg/hr or 0.98ml/kg/h **Hemodialysis** **IV (10% v/v):** **-Non drinker** 169mg/kg/hr or 2.13ml/kg/h **-Chronic alcoholic** 257mg/kg/hr or 3.26ml/kg/h **Oral (20% v/v):** **-Non drinker** 169mg/kg/hr or 1.07ml/kg/h **-Chronic alcoholic** 257mg/kg/hr or 1.63ml/kg/h **How to convert mg to ml according to concentration of solution:** $\frac{\text{(Dose /ethanol density)}}{\text{Concentration of solution}}$ *Ethanol density: 789mg/ml **Example:** Convert 175mg/kg to ml/kg for oral 20% v/v **Calculation:** $\frac{\text{(175 mg/kg / 789mg/ml)}}{\text{(20ml/100ml)}}$ = 1.1ml/kg
2) FOMEPIZOLE (Not available in HTAA) Same MOA as ethanol.	**IV:** 15mg/kg [7] (Administer as Slow IV Infusion over 30 minutes)	**IV:** 10mg/kg every 12 Hours for 4 doses, then 15mg/kg every 12 hours [7].
3) FOLINIC ACID/ LEUCOVORIN Acts by enhancing Formic Acid metabolism [10]. Folinic acid given to a patient will accelerate the rate of conversion of formic acid to carbon dioxide (CO2) and water (H2O) [2]	**IV and Oral** : 1mg/kg (up to 50mg) infusion STAT over 30 – 60 min [8] . Dilute the required dose up to 100ml D5	**IV and Oral** : 1mg/kg (up to 50mg) every 6 hours for 24-48 hrs [8]

REFERENCES

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2] Dorokhov, Y. L., Shindyapina, A. V., Sheshukova, E. V., & Komarova, T. V. (2015). Metabolic methanol: molecular pathways and physiological roles. *Physiological reviews*, *95*(2), 603-644.
3] Liesivuori, J., & Savolainen, A. H. (1991). Methanol and formic acid toxicity: biochemical mechanisms. Pharmacology & toxicology, 69(3), 157-163.
4] Kraut, J. A. (2016). Approach to the treatment of methanol intoxication. American Journal of Kidney Diseases, 68(1), 161-167.
5] Methanol Poisoning; Systemic Agent. Retrieved from https://www.cdc.gov/niosh/ershdb/emergencyresponsecard_29750029.html
6] HOWLAND, 2006
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9] Alcohol Alert, 2017. National Institute of Alcohol Abuse and Alcoholism.
10] Kapur, B. M., & Baber, M. (2017). FASD: folic acid and formic acid—an unholy alliance in the alcohol abusing mother. *Biochemistry and Cell Biology*, *96*(2), 189-197.

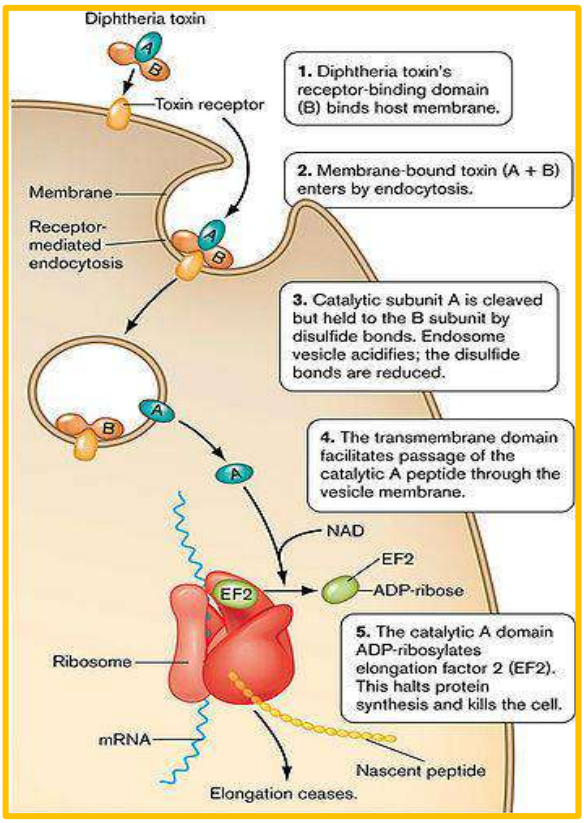
DIPHTHERIA

Prepared by: CHIEW YUEN KIAT

What is Diphtheria?

Diphtheria is an acute, toxin-mediated disease caused by the bacterium *Corynebacterium diphtheria (C. diphtheria). C. diphtheria* is an aerobic Gram-positive bacillus which normally inhabit the nasopharynx and skin. Toxin production (toxigenicity) occurs only when the bacillus is itself infected (lysogenized) by a specific virus (bacteriophage) carrying the genetic information for the toxin.
The toxin inhibits cellular protein synthesis and is responsible for local tissue destruction and pseudo-membrane formation. The toxin produced at the site of the membrane is absorbed into the bloodstream and then distributed to the tissues of the body.

Non-toxin producing strains may cause mild to moderate pharyngitis but are not associated with formation of a pseudo-membrane.



Sign and Symptoms

LOCAL EFFECT OF TOXIN	SYSTEMIC EFFECT OF TOXIN
Mucopurulent nasal discharge	Skin infection
Malaise	Abnormal cardiac rhythms
Sore throat	Thrombocytopenia
Low-grade fever	Proteinuria
Thick gray patches on the tonsils covering soft palate	Severe prostration
Hoarseness	Rapid pulse
Barking cough	Coma
	Death

Treatment of Diphtheria

1. **Diphtheria antitoxin (DAT) treatment**
   - **DAT** should be given in suspected respiratory diphtheria cases OR patient with suspected cutaneous diphtheria with systemic manifestation, without any laboratory or cultural confirmation.
   - It neutralizes circulating diphtheria toxin (prevent disease progression)
   - It **does not** affect the toxin that has been bound to tissues. Thus, delayed treatment may increase mortality.
   - Diphtheria antitoxin is not available in Hospital Tengku Ampuan Afzan, (HTAA), but it can be obtained from Hospital Sultanah Nur Zahirah (HSNZ) or Hospital Kuala Lumpur (HKL) if any emergency case is noted.

Image 1: Diphtheria Antitoxin

2. Antibiotic treatment

- It is **NOT** a substitute to treatment to DAT.
- The importance of this treatment aims to eradicate the organism from the infected site and prevent transmission to the others.
- This should be started after completion of specimen collection for diagnostic purpose.
- Recommended antibiotics are benzyl penicillin and macrolides.
- The treatment should be started with parenteral benzyl penicillin and oralise it with macrolide or benzyl penicillin once patient tolerable oral.
- A minimum of 14 days antibiotic therapy is a must and additional 10 days is indicated if toxigenic strain persists.

1. Parenteral treatment for patients unable to swallow

	Penicillin G*	Erythromycin*	Comment
Children	50 000 units/kg/dose IV 12 hourly	15-25 mg/kg/dose 6 hourly IV (maximum 1g per dose)	Can switch from parenteral treatment to oral treatment as soon as patient able to swallow.
Adults	50 000 units/kg/dose (max 1.2 million units per dose) IV 12 hourly	15-20 mg/kg/day (maximum 4g per dose) in 4 divided doses given 6 hourly	

2. Oral treatment for patients able to swallow

	Penicillin V*	Macrolides*	
		Erythromycin	Azithromycin
Children	15 mg/kg/dose (maximum 500 mg per dose) po 6 hourly	15-25 mg/kg/dose (maximum 1g per dose) po 6 hourly	10 mg/kg po daily
Adults	500 mg po 6 hourly	500 mg – 1g po 6 hourly (maximum 4g/day)	1. po daily

*Duration of antibiotic therapy is 14 days.

Control and Preventive of Diphtheria

- In Malaysia, the Ministry of Health (MOH) has outlined a vaccination schedule for babies, which includes diphtheria vaccine for 4 doses at 2nd, 4th, 6th, and 15th–18th months of age.
- This is in accordance to WHO guidelines which suggest that the primary series of vaccination should begin as early as 6th weeks of age.
- The 1st, 2nd, and 3rd doses of DTaP should be separated by a minimum of 4 weeks while the 4th dose should follow the 3rd dose by >= 6 months, and should not be administered before 13th months of age.
- The available vaccine for diphtheria prevention in HTAA is DtaPIPV/Hib (Pentaxim®), which is a combination of Diphtheria, Tetanus, Acellular Pertussis, Haemophilus influenza type b, and inactivated polio.

Image 2: Pentaxim®

References:

1. Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine-Preventable Diseases. Hamborsky J, Kroger A, Wolfe S, eds. 13th ed. Washington D.C. Public Health Foundation, 2015.
2. Abuhammour W, Alhamdani S, Yousef N. Diphtheria - Symptoms, diagnosis and treatment | BMJ Best Practice [Internet]. Bestpractice.bmj.com. 2019 [cited 15 August 2019]. Available from: https://bestpractice.bmj.com/topics/en-us/738
3. Bhd. I. Vaccination in Malaysia - [Internet]. Infomed.com.my. 2019 [cited 20 August 2019]. Available from: http://infomed.com.my/vaccination-in-malaysia

TABLET TOFACITINIB 5MG

Janus Kinase Inhibitor
Immunosuppressive agents

INDICATION

Rheumatoid Arthritis , moderate-severe, (**RA)**

- Inadequate response or intolerance to methotrexate
- May be use as monotherapy
- May combine with methotrexate or other non-biologic disease-modifying anti-rheumatic drugs (DMARDs)

MECHANISM OF ACTION

1. Prevent modulation of gene expression

Inhibits Janus Kinase Enzyme (JAK) → Prevent phosphorylatinon and activation of signal Tranducer & Activator of Transcriptors (STATS)

2. Modulate hematopoiesis and immune cell function

Cytokine @ growth factor-receptor interactions on cellular membrane → **Signal** → Influences cellular process of hematopoiesis

References: FUKKM, HTAA Formulary, Micromedex

By: Nurul 'Aqilah Liyana Matsor

PRESCRIBER CATEGORY	DEPARTMENT	PREGNANCY GROUP
A*	Rheumato	C

DOSE	LIVER ADJUSTMENT	RENAL ADJUSTMENT
5mg BD	**Mild**: No adjustment **Moderate**: 5mg OD **Severe**: Not recommended	**Mild**: no adjustment **Moderate**: 5mg OD **HD**: reduce after dialysis No supplement dose need before dialysis

PHARMACOKINETIC

Absorption	Distribution	Metabolism	Elimination
Bioavailability : 74%	Protein binding: 40%	Hepatic: 70% via CYP3A4	Renal: 30%, (65% unchange)

COMMON SIDE EFFECTS

Endocrine	Neurologic	Renal	Respiratory
↑ HDL (10-12%)	Headache (3.4-9%)	UTI (2%)	Nasopharyngitis (2.8-14%)
↑ LDL (15-19%)			URTI (3.8-6%)

ADMINISTRATION

- May be taken with/without food

References: FUKKM, HTAA Formulary, Micromedex

By: Nurul 'Aqilah Liyana Matsor

FLUTIFORM® HDi [Fluticasone/Formoterol 250/10mcg]

Indicated in the regular treatment of asthma :

- For patients not adequately controlled on an ICS and an 'as required' inhaled short-acting beta-2 agonist

  or
- Already adequately controlled on both an ICS and a LABA

250/10 µg

Adults only (≥18 years)

Facing colour-coded dose indicator – designed to help medication compliance

DOSING

2 puffs BD, normally taken in the morning and in the evening

PRESCRIBER CATERGORY	DEPARTMENT
A/KK	Respiratory /Medical

CHARACTERISTICS

- Delivers total lung deposition of up to 44% of labelled dose with deposition throughout central and peripheral airways, even if the patients have high or slow respiratory rates
- Delivers a high and consistent in vitro FPF of ≈ 40% at fast and slow inhalation flow rates

MECHANISMS OF ACTIONS

- Fluticasone [ICS]
  - Has potent vasoconstrictive and anti-inflammatory activity
  - Reduces the symptoms, improves lung function and prevents asthma exacerbation.
- Formoterol [LABA]
  - Relaxes bronchial smooth muscles by stimulation of adenyl cyclase, thereby increasing cyclic-3'-5'-adenosine monophosphate (cAMP) levels.

INHALER'S TECHNIQUES

PRIME the inhaler (**4 times**) if:

- first time use
- Not been used for ≥ 3 days
- Has been exposed to freezing conditions

ALWAYS RINSE MOUTH AFTER USED

Step 1:
Remove mouthpiece cover & shake well

Step 2:
Sit upright & breathe out completely

Step 3:
Hold inhaler upright & put mouthpiece in the mouth with the lips around it

Step 4:
Breathe in slowly & deeply through mouth while pressing down the aerosol can

Step 5:
Hold breath as long as is comfortable while removing the inhaler

Step 6:
Repeat steps for the second puff

CLEANING & MAINTENANCE

- Clean it weekly
- Wipe the inside & outside of the mouthpiece & actuator with clean, dry cloth or tissue
- Do not remove the aerosol can from the actuator

SIDE EFFECTS

- Adrenocortical suppression
- Headache
- Nausea & vomiting
- Hypotension
- Variable glucose level
- Seizures
- Hypo- or hypertension

References: :
- MOH Drug Formulary (Blue book)
- Product leaflet Flutiform®

PHARMACY R&D

Title: Costing And Utility Analysis Of Pediatric Thalassemia Patients In Htaa On Desferrioxamine Or Deferasirox Monotherapy

Author: Lee Yee Lin, Cheong Jia Yi, Tang Woan Torng, Chew Kok Yip, Mira Hairani Mohd Zaki, Nur Aqilah Bakhtiar, Yap Hui Man
Department of Pharmacy, Hospital Tengku Ampuan Afzan, Kuantan, Pahang.

Background: Thalassemia is a group of anemic disorder resulting from defects in hemoglobin production. Repeated transfusion for patient having severe anemia due to Thalassemia in long term can lead to severe clinical complications such as heart failure and liver failure. Thalassemia patient with the regular blood transfusion may need iron chelation therapy which slowly removes the deposited iron to form the soluble complex that can be excreted via the urine or feces. Desferrioxamine (Desferal®), is currently used as the standard first line iron chelator in general practice. However, because of the deficient compliance to this iron chelation therapy, oral Deferiprone (L1®) and Deferasirox (Exjade®) are introduced to the clinical setting. Oral Deferasirox is more expensive compared to the subcutaneous Desferrioxamine but the mode of administration made it more acceptable by patients.

Method: A cross-sectional population study was performed on pediatric thalassemia patients in Hospital Tengku Ampuan Afzan HTAA, Kuantan, Pahang. Tranfusional dependent thalassaemia patients who are follow up in Paediatric Thalassaemia Clinic were recruited into the study. The inclusion criteria are patients aged 2 years old and above, currently on Desferrioxamine or Deferasirox monotherapy for at least 1 year (2016-2017). Costing of the treatments that were included in the study involved medications, equipment, lab investigation, adverse events management cost, complication and disease management. The cost of the treatment will be expressed in Ringgit Malaysia (RM) per year. Quality of life of patients was assessed via translated and validated questionnaire The Paediatric Quality of Life Inventory TM (PedsQLTM version 4.0). Results were reported as PedsQL scores.

Results: The total cost spent per person per year for Desferasirox is about 3 times higher than Deferasirox which were RM 34 271.23 and RM 11 145.73 respectively. This is mainly contributed by the cost of the medication (Deferasirox) itself. While for the quality of life, the means (SDs) PedsQL score were 79.48 (8.15) for the total scores of patients on desferrioxamine and 73.09 (13.20) for patient on deferasirox treatment. There is no variation or inconsistency between the patients' perception towards the QoL compared to the perception of parents towards to the QoL of their children.

Conclusion: These findings showed that huge difference of cost in two efficacy comparable thalassemia treatment options, Desferrioxamine and Deferasirox. Total overall cost of Desferrioxamine is RM 11 145.73 while Deferasirox is RM 34 271.23. The QOL between patients on Desferrioxamine and Deferasirox treatment showed no significant difference.

PHARMACY R&D

Title: Analgesics Prescription Pattern among Surgical Treated Patients

Author: Tang Woan Torng, Han Ser Li, Nurul Hidayah Salleh, How Huey Jiun, Lee Wen Yee, Nurul Izzati Kamarrudin, Bharathi Muttusamy
Department of Pharmacy, Hospital Tengku Ampuan Afzan, Kuantan, Pahang.

Background: The aim of this study is to evaluate the prescribing pattern of analgesia for pre- and post-operative pain management, adequacy of pain control and determine the correlation between types of analgesic versus type of surgery in general surgical ward Hospital Tengku Ampuan Afzan, Kuantan.

Method: A single center, observational retrospective study was carried out for 3 months from July to October 2018 in general surgical male and female ward. Collected data included patient's demographic, diagnosis, types of surgery, pain score and line of pain management during the study. Above mentioned data were then recorded in designated data collection form and results were analyzed descriptively and statistically using Statistical Package for Social Science (SPSS) version 22.0.

Results: Out of 133 patients, 56 were male and 77 were female. In this study, most of the surgeries were general surgeries 54.1%, hepatobiliary 4.5%, otorhinolaryngology and dental 10.5%, colorectal 13.5%, endocrine 7.5%, neurosurgery 3.8% and urology 6.0%. Tramadol and paracetamol were the most commonly prescribed analgesic in monotherapy (n= 1 and 3 respectively) and combination therapy 47.59%. Majority of patients did not received anxiolytics before surgery (88.7%) and some patients did received anxiolytics (11.3%). However, the correlation between mean ± standard deviation of anxiolytic used before surgery and patients pain score 24 hour post-surgery shows no significant different (p-value > 0.05). Among all the surgeries, only colorectal surgery had significant association with pain score (p-values < 0.05) while general surgery, ENT and dental surgery, endocrine surgery and also urology surgery shows no significant differences with pain score post-operative.

Conclusion: Pain management after operation throughout the hospitalization is adequate as most of the subjects had mild pain post-operative, which is tolerable. Tramadol and paracetamol are most commonly used analgesics after operation. There is no correlation between the type of surgery and pain score.

PHARMACY R&D

Title: Utilization of Urgent Drug Stock in HTAA

Author: Siti Sarah Ilias, Cheong Jia Yi, Lim Pei Ling, Soo Ehaun, Norhayati Binti Din
Department of Pharmacy, Hospital Tengku Ampuan Afzan, Kuantan, Pahang.

Background : Urgent drug stock (UDS) plays an important role in ensuring patients staying in Hospital Tengku Ampuan Afzan (HTAA) to obtain supply of medications during urgent cases throughout 24 hours. This cross-sectional observational study aimed to determine the utilisation of UDS among the health care providers in HTAA.

Method: A cross-sectional observational study conducted among the health care providers in HTAA using validated questionnaires. It included assessment instrument for the understanding of UDS were given in order to identify the impact of good utilization of UDS among medical patients.

Results: The score of respondents' understanding was 65.4±22.0% (mean± SD). However, the Cronbach alpha for nurses was low (0.3) after remove the questions from twelve to only four. Low understanding toward the questionnaire was suspected.

Conclusion : To develop a new set of Malay version validated questionnaire.

Majlis Perpisahan Puan Helina & Encik Amran

Tarikh: 3 Mei 2019

Tempat: Farmasi Bekalan Wad

Penganjur: PharmCare

Cenderahari disampaikan kepada staf oleh Ketua Jabatan Farmasi bersama Pengerusi PharmCare

JAMUAN HARI RAYA AIDILFITRI 2019

Tarikh: 19 Jun 2019

Tempat: Perkarangan UFL

Penganjur: PharmCare

Barisan ketua unit Jabatan Farmasi HTAA

Pelbagai juadah disediakan

Kemeriahan diraikan bersama

PHARMACY ECHO TRAINING

SIRI 1/2019

TARIKH :
6 JULAI 2019
WAKTU :
8.30AM - 1.00PM
TEMPAT :
BILIK MESYUARAT NILAM 1,
TINGKAT 5 BANGUNAN ACC

Taklimat sedang disampaikan oleh para penceramah bengkel

Good Governance of Medicine Course
BIL. 2/2019

TARIKH : 24 OGOS 2019
TEMPAT : BILIK MESY. NILAM, ACC, HTAA
PENGANJUR : PUSAT MAKLUMAT & SUMBER FARMASI (PRIC)
OBJEKTIF : MEMUPUK & MENINGKATKAN INTEGRITI
DI KALANGAN PENJAWAT AWAM

Para peserta mengambil bahagian dalam aktiviti perbincangan bersama fasilitator.