PHARMACY BULLETIN 2/2021
(MAY-AUGUST)

SPECIAL TOPIC

ASTHMA

PUBLISHED BY JABATAN FARMASI, HOSPITAL TENGKU AMPUAN AFZAN, KUANTAN, PAHANG

IN THIS ISSUE:

HTAA PHARMACY STAFF UPDATES 2021

TRANSFERED OUT

NAME: DR. SAHIMI BINTI MOHAMED
POSITION: PEGAWAI FARMASI GRED KHAS C (KUP)
FROM: JABATAN FARMASI
TO: HOSPITAL SERDANG
DATE REPORTED DUTY: 1/6/2021

NAME: DR. JANATTUL AIN BINTI JAMAL
POSITION: PEGAWAI FARMASI GRED KHAS C (KUP)
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TO: HOSPITAL PULAU PINANG
DATE REPORTED DUTY: 1/6/2021

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TRANSFERED OUT

NAME: QUAH JOO EAN
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DATE REPORTED DUTY: 31/5/2021

NAME: SYARIFAH NASYIRAH BINTI SYED ROSLIE
POSITION: PEGAWAI FARMASI UF41 (K)
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NEWLY APPOINTED

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POSITION: PEGAWAI FARMASI UF41
TO: FARMASI SATELIT
DATE REPORTED DUTY: 3/5/2021

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INTERNAL RESHUFFLE - TRANSFERRED IN

NAME: MOHD FADILLAH BIN MD NOH
POSITION: PEMBANTU TADBIR N22 (TBK)
FROM: UNIT REKOD
TO: UNIT FARMASI LOGISTIK
DATE REPORTED DUTY: 2/8/2021

NAME: JURAINI BINTI AZIZ
POSITION: PEMBANTU TADBIR N22 (TBK)
FROM: WAD MAWAR 7A
TO: UNIT FARMASI LOGISTIK
DATE REPORTED DUTY: 2/8/2021

NAME: HARRIS NASUTION BIN MOHD KHALID
POSITION: PEMBANTU TADBIR N22 (TBK)
FROM: WAD ORKID 8B
TO: UNIT FARMASI LOGISTIK
DATE REPORTED DUTY: 2/8/2021

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INTERNAL RESHUFFLE - TRANSFERRED OUT

NAME: ROSLINA BINTI MOHAMAD
POSITION: PEMBANTU TADBIR N22 (TBK)
FROM: UNIT FARMASI LOGISTIK
TO: SEKSYEN HASIL
DATE REPORTED DUTY: 2/8/2021

NAME: JUNAIDAH BINTI ZAINAL
POSITION: PEMBANTU TADBIR N22 (KUP)
FROM: UNIT FARMASI LOGISTIK
TO: JABATAN NEFROLOGI
DATE REPORTED DUTY: 2/8/2021

NAME: MOHD NASHARUDDIN BIN HUSSAIN
POSITION: PEMBANTU TADBIR N22 (KUP)
FROM: UNIT FARMASI LOGISTIK
TO: SEKSYEN HASIL
DATE REPORTED DUTY: 2/8/2021

HTAA PHARMACY STAFF UPDATES 2021

RESIGNED

NAME: NURSYAKIRAH BINTI HASSIM
POSITION: PEGAWAI FARMASI UF41 (K)
FROM: FARMASI BEKALAN WAD
DATE RESIGNED: 1/6/2021

ASTHMA

BY: NORSYAFIKA BINTI KAMARUDIN & AHMAD NAJMI BIN SHUKHAIRI

BACKGROUND

Asthma is a common respiratory disease characterized by variable airflow obstruction and airway hyperresponsiveness associated with airway inflammation. Asthma causes symptoms such as wheezing, shortness of breath, chest tightness and cough that vary over time in their occurrence, frequency and intensity. It may develop at any stage in life including adulthood, causing respiratory symptom, limitation of activity, and sometimes flare up attacks that require urgent health care.

Asthma affects an estimated 300 million individuals worldwide. According to the latest WHO data published in 2018, asthma deaths in Malaysia was 1,069 or 0.76% of total deaths with rate 4.33 per 100,000 of population, ranked number 27 leading causes of death in Malaysia[7].

PATHOPHYSIOLOGY

The usual cascade begins with the activation and degranulation of mast cells in response to allergens or topical insults. The mast cells in turn promote activation of T lymphocytes which then release IL-4, IL-5, and IL-13. (refer *Figure 1*). IL-4 has a role in B-cell IgE isotype switching and upregulation of FcεRI on mast cells, which release histamine and other mediators that lead to allergic symptoms and **smooth muscle spasm**. IL-5 leads to activation, migration, and accumulation of eosinophils to the airway and initiates bronchial inflammation. IL-13 has a main role in **mucus hypersecretion** and **goblet cell hyperplasia** and promotes airway hyper-responsiveness. (Athari, 2019) (refer *Figure 2*)

The inflammation process results in bronchoconstriction (airway narrowing), airway wall thickening/mucosal edema, and increased mucus production, causing difficulty breathing air out of the lungs with variable expiratory airflow. (Athari, 2019)

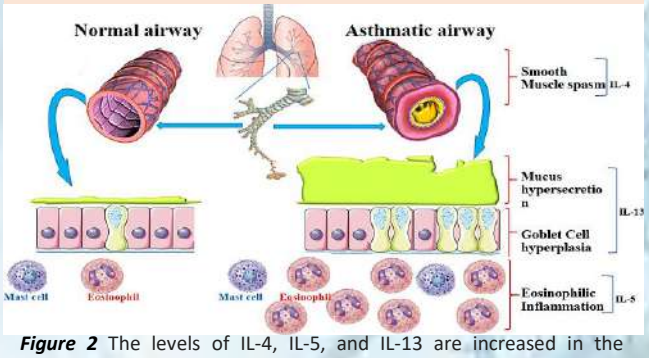


Figure 2 The levels of IL-4, IL-5, and IL-13 are increased in the bronchoalveolar lavage (BAL) of asthmatic patients (Athari, 2019)

FACTOR TRIGGERING ASTHMA

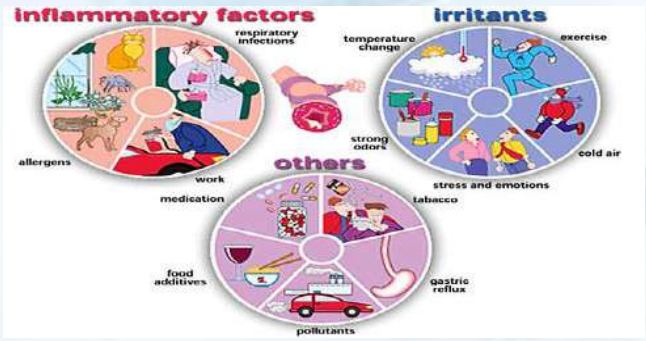


Figure 3 Factor triggering asthma

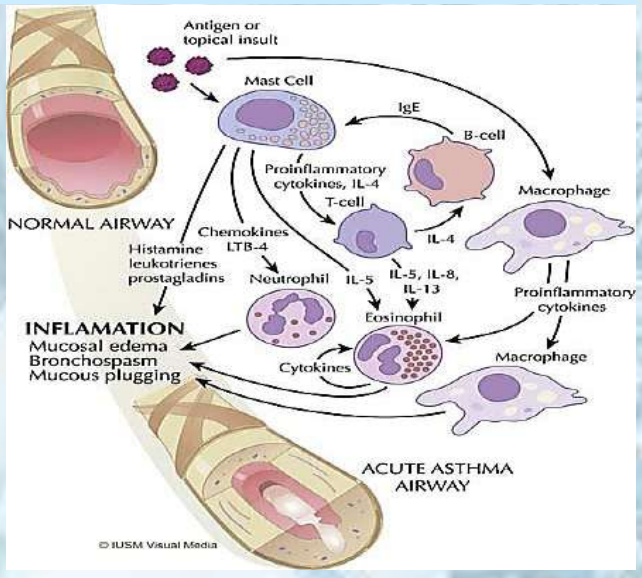


Figure 1 Cellular and humoral mediators that lead to mucosal edema, bronchospasm, and mucous plugging in patients with acute asthma. *IL*, Interleukin; *LTB-4*, leukotriene B-4 (Rotta *et al*., 2015)

COMMON PHENOTYPES OF ASTHMA

There are different types of asthma (also called phenotypes), with different underlying disease processes.

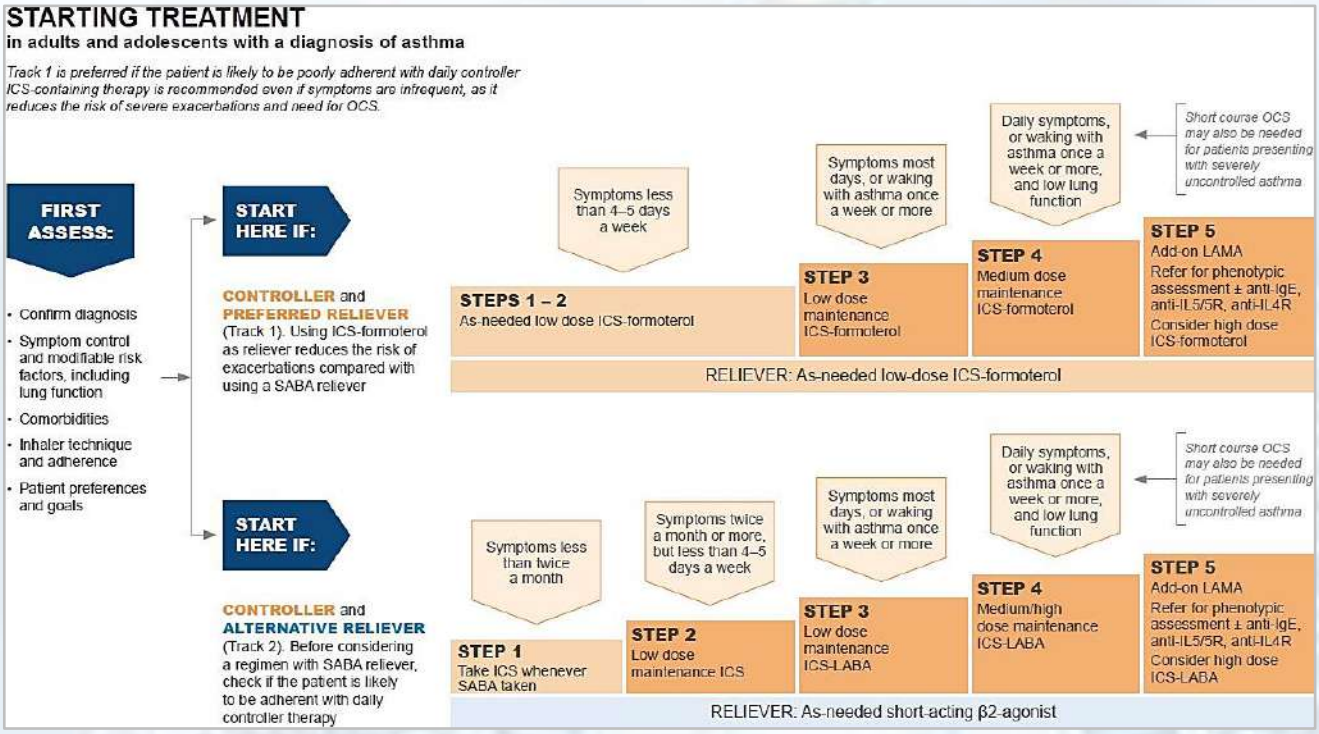
Table 1 Asthma Phenotypes

Common Phenotypes	Description
Allergic asthma	• Commences in childhood, associated with a past and/or family history of allergic disease • Cellular profile of the sputum before treatment: eosinophilic • Usually respond well to inhaled corticosteroid (ICS) treatment.
Non-allergic asthma	• Asthma that not associated with allergy • Cellular profile of the sputum: may be neutrophilic, eosinophilic, or contain only a few inflammatory cells. • Less short-term response to ICS.
Adult-onset asthma	• Present with asthma for the first time in adult life, tend to be non-allergic • Require high dose ICS or are relatively refractory to corticosteroid
Asthma with persistent airflow limitation	• Some patients with long-standing asthma develop persistent or incompletely reversible air flow limitation
Asthma with obesity	• Some obese patients with asthma have prominent respiratory symptom and little eosinophilic airway inflammation.

(Global Initiative for Asthma, 2021)

TREATMENT/MANAGEMENT

The aim of asthma management is to prevent exacerbations and asthma deaths, and to relieve and control symptoms. Asthma treatment should be customized to the individual patient, taking into account their level of symptom control, their risk factors for exacerbations, phenotypic characteristics, and preferences, as well as the effectiveness of available medications, their safety, and their cost to the payer or patient.



ICS: inhaled corticosteroid; SABA: short-acting beta2-agonist

Figure 4 *Selecting initial controller treatment for asthma in adult & adolescent* (Global Initiative for Asthma, 2021)

Table 2 Daily metered doses of inhaled corticosteroids (ICS) for adults and adolescents

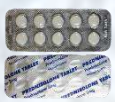
Inhaled corticosteroid	Available strength in HTAA	Total daily ICS dose (mcg)		
		Low	Medium	High
Beclomethasone dipropionate (pMDI, standard non-fine particle HFA)	100mcg/dose	200–500	>500–1000	>1000
Beclomethasone dipropionate (DPI or pMDI, extrafine particle, HFA)	100mcg/dose	100–200	>200–400	>400
Budesonide (DPI or pMDI*, HFA)	200mcg/dose	200–400	>400–800	>800
Ciclesonide (pMDI, extrafine particle, HFA)	160mcg/dose	80–160	>160–320	>320
Fluticasone furoate (DPI)	N/A	100		200
Fluticasone propionate (DPI)	N/A	100–250	>250–500	>500
Fluticasone propionate (pMDI*, HFA)	125mcg/dose	100–250	>250–500	>500
Mometasone furoate (DPI)	N/A	Depends on DPI device		
Mometasone furoate (pMDI*, HFA)	N/A	200–400		400

DPI: dry powder inhaler; HFA: hydrofluoroalkane propellant; pMDI: pressurized metered dose inhaler. (Global Initiative for Asthma, 2021)

ASTHMA MEDICATION CLASSES

Medications	Action and use	Available preparation in HTAA
RELIEVER MEDICATIONS		
Short-acting inhaled beta2-agonist bronchodilators (SABA)		
(pMDIs, DPIs and, rarely, solution for nebulization or injection) e.g. salbutamol (albuterol), terbutaline.	β2 -Agonists relax airway smooth muscle by directly stimulating β2 -adrenergic receptors in the airway. Inhaled SABAs have an onset of action of less than 5 minutes and a duration of action of 4 to 6 hours. SABAs should be used only as-needed and at the lowest dose and frequency required. Tolerance develops rapidly with regular use. (Global Initiative for Asthma, 2021)	1. pMDI Salbutamol MDI Ventolin 100mcg/dose  2. DPI Salbutamol Easyhaler Salbutamol 200mcg/dose 

Medications	Action and use	Available preparation in HTAA
RELIEVER MEDICATIONS		
Low dose ICS-formoterol		
(beclomethasone (BDP)-formoterol or budesonide-formoterol)	This is the reliever medication for patients prescribed maintenance and reliever therapy (MART). Formoterol is a full agonist that has an onset of action similar to that of salbutamol. Maximum recommended dose in a single day for BDP-formoterol is a total of 48 mcg formoterol (36 mcg delivered dose), and for budesonide- formoterol, 72 mcg of formoterol (54 mcg delivered dose). (Global Initiative for Asthma, 2021)	1. MDI Foster (pMDI, extrafine) Beclomethasone 100mcg/ formoretol 6mcg /dose  2. Turbuhaler Symbicort (DPI) Budesonide 160mcg/ formoterol 4.5mcg /dose 
CONTROLLER MEDICATIONS		
Inhaled corticosteroids (ICS)		
(pMDIs or DPIs) e.g. beclometasone, budesonide, ciclesonide, fluticasone propionate, fluticasone furoate, mometasone, triamcinolone	ICS is the preferred therapy for all forms of persistent asthma in all age groups. ICS decrease airway inflammation, attenuate airway hyperresponsiveness, and minimize mucus production and secretion. It reduce symptoms, increase lung function, improve quality of life, and reduce the risk of exacerbations and asthma-related hospitalizations and death. (Global Initiative for Asthma, 2021)	1. MDI Pulmicort (pMDI) Budesonide 200mcg/dose  2. MDI Flixotide (pMDI) Fluticasone 125mcg/dose  3. MDI Alvesco (pMDI) Ciclesonide 160mcg/dose  4. MDI Beclovent (pMDI) Beclomethasone 100mcg/dose 
ICS and long-acting beta2-agonist bronchodilator combinations (ICS-LABA)		
(pMDIs or DPIs) e.g. beclometasone- formoterol, budesonide- formoterol, fluticasone furoate-vilanterol, fluticasone propionate formoterol, fluticasone propionate-salmeterol, mometasone-formoterol and mometasone- indacaterol.	LABA should not be used without ICS in asthma . Salmeterol and formoterol are LABAs that provide up to 12 hours of bronchodilation after a single dose. Because of the long duration of bronchodilation, these agents are useful for patients experiencing nocturnal symptoms. Salmeterol is a partial agonist with an onset of action of approximately 30 minutes. Formoterol is a full agonist that has an onset of action similar to that of salbutamol. (Global Initiative for Asthma, 2021)	1. Evohaler Seretide (pMDI) Salmeterol 25mcg / Fluticasone 125mcg /dose  2. Accuhaler Seretide (DPI) Salmeterol 50mcg/ Fluticasone 250mcg /dose  2. Accuhaler Seretide (DPI) Salmeterol 50mcg/ Fluticasone 500mcg /dose 
Leukotriene modifiers (leukotriene receptor antagonists, LTRA)		
(tablets) e.g. montelukast, pranlukast, zafirlukast, zileuton	Target one part of the inflammatory pathway in asthma. Used as an option for controller therapy, particularly in children. When used alone: less effective than low dose ICS. When added to ICS: less effective than ICS- LABA. Risk of serious behaviour and mood changes. (Global Initiative for Asthma, 2021)	1. Montelukast Sodium 10 mg Tablet  2. Montelukast Sodium 5 mg Tablet  3. Montelukast Sodium 4 mg Oral Granules 

Medications	Action and use	Available preparation in HTAA
Chromones		
(pMDIs or DPIs) e.g. sodium cromoglycate and nedocromil sodium	Very limited role in long-term treatment of asthma. Weak anti-inflammatory effect, less effective than low dose ICS. Require meticulous inhaler maintenance. (Global Initiative for Asthma, 2021)	Not available in HTAA
ADD-ON CONTROLLER MEDICATIONS		
Long-acting muscarinic antagonists (LAMA)*		
(≥6 years: tiotropium by mist inhaler; ≥18 years: (beclometasone- formoterol-glycopyrronium; fluticasone furoate- vilanterol-umeclidinium; mometasone-indacaterol- glycopyrronium)	An add-on option at Step 5 (or, non- preferred Step 4) for patients with uncontrolled asthma despite ICS-LABA*. For patients with exacerbations, ensure that ICS is increased to at least medium dose before considering need for add-on LAMA. It modestly improves lung function but not symptoms. (Global Initiative for Asthma, 2021)	1. Respimat Spiriva (Mist Inhaler) Tiotropium 2.5mcg/dose 
Anti-IgE		
(omalizumab, SC, ≥6 years*)	An add-on option for patients with severe allergic asthma uncontrolled on high dose ICS-LABA*. (Global Initiative for Asthma, 2021)	Omalizumab 150 mg (powder and solvent for solution) 
Anti-IL5 and anti-IL5R		
(anti-IL5 mepolizumab [SC, ≥12 years*] or reslizumab [IV, ≥18 years], or anti-IL5 receptor benralizumab [SC, ≥12 years]	Add-on options for patients with severe eosinophilic asthma uncontrolled on high dose ICS-LABA*. (Global Initiative for Asthma, 2021)	Not available in HTAA
Anti-IL4R		
(dupilumab, SC, ≥12 years*)	An add-on option for patients with severe eosinophilic or Type 2 asthma uncontrolled on high dose ICS-LABA, or requiring maintenance OCS. (Global Initiative for Asthma, 2021)	Not available in HTAA
Systemic corticosteroids		
(tablets, suspension or IM or IV injection) e.g. prednisone, prednisolone, methylprednisolone, hydrocortisone	Short-term treatment (usually 5–7 days in adults) is important in the treatment of severe acute exacerbations, with main effects seen after 4–6 hours. OCS therapy is preferred to IM or IV therapy and is effective in preventing relapse. Tapering is required if treatment given for more than 2 weeks. Long-term treatment with OCS may be required for some patients with severe asthma, but side-effects are problematic. (Global Initiative for Asthma, 2021)	1. Methylprednisolone Sodium Succinate 1 g Injection  2. Prednisolone 5 mg Tablet  3. Hydrocortisone Sodium Succinate 100 mg Injection 

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DRUG UPDATES

AZELAIC ACID 20% CREAM

A. DESCRIPTION

Azelaic acid is a cream, used to treat common acne (acne vulgaris), that works mainly by unplugging blocked pores. It should only be used to treat acne and not for any other skin condition.

B. REGISTRATION NUMBER

MAL20000036AZ

C. PRICE

RM 28.80/tube

D. DEPARTMENT

Dermatology

E. PRESCRIBER CATEGORY

A* (Consultant/ Specialist for specific indications only)

E. PREGNANCY CATEGORY

Category B (MIMS)

G. MECHANISM OF ACTION

Azelaic acid acts by inhibiting the synthesis of cellular protein in anaerobic and aerobic bacteria especially *Staphylococcus epidermidis* and *Propionibacterium acnes.* It improves acne vulgaris by normalizing the keratin process and decreasing microcomedo formation.

B. INDICATION IN FUKKM

Acne Vulgaris

C. DOSE AND ADMINISTRATION

- Apply twice daily (once daily for 1st week for those with sensitive skin).
- Treatment should not exceed 6 months.

D. ADVERSE REACTIONS

- Common:
  - Dermatologic: Burning sensation, Pruritus (Rosacea 11%, Acne vulgaris 1 to 5%), Stinging of skin, Tingling of skin
- Serious:
  - Dermatologic: Skin irritation
  - Immunologic: Hypersensitivity reaction

F. CONTRAINDICATIONS

Hypersensitivity to propylene glycol and azelaic acid products.

H. MONITORING PARAMETERS

- Reduction in the number of inflammatory papules and pustules is indicative of efficacy.
- Signs and symptoms of hypopigmentation in patients with dark complexion.

M. USE IN SPECIFIC POPULATIONS

- Paediatric:
  - Use in adolescent (12-18 years of age: Dose adjustment is not required).
  - The safety and efficacy in children below age of 12 years have not been established.
- Geriatric:
  - No targeted studies have been performed in patients aged 65 and over.
- Patient with hepatic impairment:
  - No targeted studies have been performed in patients with hepatic impairment.
- Patient with renal impairment:
  - No targeted studies have been performed in patients with renal impairment.
- Pregnancy:
  - There are no adequate and well-controlled studies of topically administered azelaic acid in pregnant women, hence caution should be exercised when prescribing azelaic acid to pregnant women.
- Breastfeeding:
  - It is not known if azelaic acid is passed into breast milk in vivo, hence caution should be exercised when administered to a nursing mother.

N. PRECAUTIONS

- Dermatologic:
  - Hypopigmentation has been reported, monitoring recommended for patients with dark complexion.
  - Skin reactions (eg: burning, pruritis, or stinging) may occur, usually during the first few weeks of therapy, discontinue if severe irritation develop and persists.
- Immunologic:
  - Hypersensitivity reactions, including angioedema, eye swelling, facial swelling, dyspnea, urticaria and skin reactions have been reported; avoid use with known hypersensitivity to any component of the gel and discontinue use if develops.
- Ophthalmic:
  - Eye irritation may occur, avoid contact with the eyes, mouth, and other mucous membrane.
- Respiratory:
  - Exacerbation of asthma has been reported.

O. STORAGE

- Store at 15-30°C
- Do not use after the expiry date which is stated on the box.
- After the first opening of the container, the in-use shelf life is 6 months.
- Keep the medicine out of the sight and reach of children.
- Do not throw any medicines via wastewater or household waste.

P. PHARMACIST ROLES

- Counsel patient to report excessive or persistent skin irritation or hypopigmentation.
- Advise patient to report symptoms of worsening asthma.
- Counsel patient regarding the side effects of using this cream may include burning, stinging, or tingling of the skin, pruritus, scaling or dry skin, erythema, contact dermatitis, edema or acne.
- To recommend patient for not using on occlusive dressing or wrapping unless instructed to do so by healthcare professionals.
- Advise patient to avoid contact with eyes, mouth, and mucus membranes.
- Counsel patient to cleanse affected area using only very mild soaps or soapless cleansing lotion and pat dry with a soft towel before application.
- Counsel patient to avoid use of alcohol alcoholic cleansers, tinctures and astringents, abrasive, and peeling agent.
- Emphasize patient to wash hands immediately after application.
- Emphasize that cream is only for topical use, not for oral, ophthalmic, or intravaginal use.

Q. REFERENCES

Product information leaflet, MIMS gateaway, FUKKM, Micromedex, Quest 3+ NPRA, UpToDate

BY: NORATIQAH BT SANUSI

DRUG UPDATES

FENTANYL 12MCG/HR TRANSDERMAL PATCH

A. DESCRIPTION

Fentanyl patches help relieve pain in patients with chronic persistent pain that is moderate and severe that is expected to last for more than more than a week.

B. REGISTRATION NO.

MAL08111815AZ

C. PRICE

RM 226.75 / Pack of 5 patches

D. DEPARTMENT

Palliative Unit

E. PRESCRIBER CATEGORY

A* – Consultant / Specialists for specific indications only

F. MECHANISM OF ACTION

Fentanyl acts as an opioid agonist analgesic, in which it predominantly interacts with opioid μ-receptors in the central nervous system.

It has low molecular weight, high potency and lipid solubility which makes it ideal for delivery via the transdermal route.

This medication can increase pain threshold, alters pain reception and will inhibit the ascending pain pathways by binding to stereospecific receptors at several sites in the brain.

G. INDICATION IN FUKKM

As a second line drug in the management of opioid responsive, moderate to severe chronic cancer pain.

H. DOSE AND ADMINISTRATION

ADULT and CHILD above 2 years previously treated with a strong opioid analgesic, initial dose based on previous 24-hour opioid requirement (consult product literature). If necessary, dose should be adjusted at 72-hour intervals in steps of 12-25 mcg/hr.

I. USE IN SPECIAL POPULATION

- Hepatic impairment: contraindicated in patient with Child Pugh C, but for patient with Child Pugh A and B, one half of the usual dose can be started.
- Renal impairment: avoid usage in severe renal impairment. For patient with mild to moderate renal impairment, one half of the usual dose can be started.
- Paediatrics: safety profiles not established for child less than 2 years old.
- Geriatrics: consider only if benefits outweigh the risks, dose reduction may be needed.
- Pregnancy category: pregnancy category C. Can cause neonatal withdrawing syndrome in newly born infants with chronic maternal use of Fentanyl patch.
- Breast Feeding: breast feeding is not recommended for at least 72 hours after breast feeding.

DRUG UPDATES

J. CONTRAINDICATION

- Hypersensitivity to fentanyl, soya, peanuts and components of transdermal patch
- Acute pain (after surgical procedures)
- Bradycardiac dysrhythmias
- Severe impaired CNS function
- Application during labour
- Raised intra-cranial pressure, respiratory depression and biliary colic (these conditions are not contraindicated in patients who are terminally ill)

K. WARNING AND PRECAUTIONS

- Not to be used in opioid naive patient
- Elderly, neonates, children, obstetric patients, hepatic/renal dysfunction, pulmonary disease, increased intracranial pressure, pregnancy and lactation.
- Avoid exposing patch to direct heat
- Not for acute or post-op pain
- COPD or other pulmonary disease, bradycardia, brain tumour, impaired consciousness or coma.
- Withdraw gradually
- May impair ability to drive or operate machinery
- Fever

L. ADVERSE DRUG REACTION

Common

- **Gastrointestinal:** nausea, vomiting
- **Respiratory:** dyspnoea
- **Neurogenic:** headache, somnolence, dizziness

Serious

- **Cardiovascular:** hypotension, chest pain, bradyarrhythmia.
- **Endocrine metabolic**: adrenal insufficiency
- **Gastrointestinal**: paralytic ileus
- **Respiratory**: respiratory depression
- **Neurologic**: coma, seizure
- **Others:** drug dependence, Neonatal Abstinence Syndrome, Serotonin Syndrome

M. PHARMACIST ROLE

- Counsel the patient that accidental exposure of even one dose, especially by children, can result in a fatal overdose and do not cut the patch with scissor.
- Counsel patient that exposure of the application site and surrounding area to direct external heat sources may increase fentanyl absorption and can resulted in fatal overdose of fentanyl and death.
- Remind patients with a fever or high body temperature due to strenuous exertion may have risk of increased fentanyl exposure and may require dose adjustment.
- Advise patient to be cautious when operating machine or driving.
- Advise patient to apply the patch on a flat part of the upper body or arm (not over a joint).
- Advise patient that this medication may increase risk of addiction and abuse.

N. STORAGE

Store between 15-30 °C. Protect from light.

O. REFERENCE

Product leaflet, MIMS, FUKKM, UPTODATE, MICROMEDEX, DRUG BANK.com

BY: NAVIN KUMAR

COVID-19 Vaccine: Adverse Effect Following Immunization

By: Syazwani Zulkofli

In Malaysia, the first wave of COVID-19 infection started early 2020 and persists until present. One of the strategies to combat COVID-19 infection is by obtaining protection via vaccination. The COVID-19 vaccine stimulates the immune system, so that if exposed to the SARS-CoV-2 virus, the body can fight and protect against the COVID-19 infection.[1] When at least 70% of the population has been vaccinated, 'herd immunity' can be achieved. The benefit of vaccination can be seen as rate of hospitalization has reduced, mainly in category 4 & 5 of COVID-19 infection in Sungai Buloh Hospital.[2]

Adverse Effect Following Immunization (AEFI)

Upon vaccination, individuals may experience AEFI. AEFI is defined as any untoward medical occurrence which follows immunization and does not necessarily have a causal relationship with the usage of the vaccine.[3] The adverse event may be any unfavorable or unintended sign, abnormal laboratory finding, symptom or disease.[3] The side effects of the COVID-19 vaccine that have been reported are usually mild and temporary. The most commonly reported side effects are **pain / swelling / redness at the injection site, feeling tired or lethargic, headaches, shivers, joint pains, fever, nausea, feeling unwell and swelling of the lymph nodes.** [3]

Did you know?

Currently there are 5 vaccines approved by KKM; Comirnaty®, CoronaVac®, AstraZeneca (ChAdOx1-S®[recombinant]) , Janssen, and Convidecia®. Out of these 5 vaccines, only 3 vaccines are currently used in Pahang, which are Comirnaty®, CoronaVac® & (ChAdOx1-S®[recombinant]). These 3 vaccines require 2 doses of vaccine to be completed.

Case Scenario (EXAMPLE)

Patient presented with transient fever for a day and painful swelling at injection site after the first dose of COVID-19 vaccine. Injection site erythema and swelling lasted 3 days. She took paracetamol for the fever and pain.

Vaccination decision for 2nd dose of Vaccine [4]:
Can vaccinate 2nd dose, non-allergic localized side effect

Patient developed headache, dizziness, nausea 5 minutes after received the first dose of COVID-19 vaccine. No rash observed. No angioedema. All vital signs were normal.

Vaccination decision for 2nd dose of Vaccine [4]:
Can vaccinate 2nd dose, general side effects of vaccine

Type of Vaccine /Possible Event		Pfizer-BioNTech (Comirnaty)	Sinovac (CoronaVac®)	Oxford-AstraZeneca (ChAdOx1-S®[recombinant])
Possible Event	Very Common (≥ 1/10)	**Local**: Injection site swelling and erythema **General**: arthralgia, fatigue, fever, headache, myalgia	**Local**: injection site pain General: fatigue, headache	**Local**: injection site tenderness, injection site pain, injection site warmth, injection site pruritus, injection site bruising **General**: headache, nausea, myalgia, arthralgia, fatigue, malaise, pyrexia , chills
	Common (≥1/100 to <1/10)	**Local**: injection site pain, erythema **General**: nausea	**Local**: injection site erythema, injection site urticaria, injection site swelling, injection site itchiness, redness, hardening **General**: muscle pain, nausea, diarrhea, joint pain, cough, shivering, itchiness, loss of appetite, runny nose, sore throat, stuffy nose, stomachache	**Local**: injection site swelling, injection site erythema, injection site induration General: vomiting, diarrhoea, influenza-like illness
	Uncommon (≥1/1,000 to <1/100)	**Local**: injection site pruritus **General**: insomnia, lymphadenopathy, malaise, extremity pain	**Local**: injection site burning sensation **General**: vomiting, hypersensitivity, abnormal skin and mucous membrane condition, fever, trembling, flushing, swelling, dizziness, drowsiness	**Local**: rash, pruritus **General**: lymphadenopathy, decreased appetite, dizziness, abdominal pain, hyperhidrosis
	Rare (≥1/10,000 to <1/1,000)	**Local**: - **General**: acute peripheral facial paralysis / Bell's Palsy	**Local**: injection site burning sensation **General**: vomiting, hypersensitivity, abnormal skin and mucous membrane condition, fever, trembling, flushing, swelling, dizziness, drowsiness	**Local**: - **General**: -
	Very Rare	Anaphylaxis Myocariditis / pericarditis	**Local**: - **General**: -	Thrombosis in combination with thrombocytopenia. Very rare events of neuroinflammatory disorders have been reported following vaccination with COVID-19 Vaccine AstraZeneca. A causal relationship has not been established.
	Not Known (cannot be estimated from available data	**Local**: - **General**: -	**Local**: - **General**: -	Anaphylaxis, Hypersensitivity

Table 1: Possible Events for the 3 types of COVID-19 vaccine available in Pahang.[4]

Who is NPRA?

The National Pharmaceutical Regulatory Agency (NPRA) are the institution that are responsible for quality control on pharmaceutical products including vaccines in Malaysia. All AEFI must be reported to NPRA for monitoring and surveillance.

How to report AEFI?

1. Visit the NPRA website. https://npra.gov.my
2. Click "Consumer Reporting of Side Effects to Medicines or Vaccines''
3. Click "ConSERF Online Reporting" OR "ConSERF Form"

   a) Print the form and fill in manually, or
   b) Fill in the form via Adobe Acrobat (recommended) and click "Save As" to save your completed form.

Email the completed form to fv@npra.gov.my

References:

1. Jawatankuasa Khas Jaminan Akses Bekalan Vaksin Covid-19 (JKJAV) website. https://www.vaksincovid.gov.my/en/faq/
2. Category 4&5 Admission to Sungai Buloh Hospital By Age Group (Epid Week 1/2021-21/2021). CPRC Hospital Sungai Buloh.
3. World Health Organization (WHO). 2021
4. Clinical Guidelines of Covid Vaccination in Malaysia. 3rd Edition, 2021.

PHARMACY R&D

Title: Assessment on Insulin Injection Practice Among Hospitalised Diabetes Mellitus Patients In Hospital Tengku Ampuan Afzan, Kuantan.

Author: Hui HHS, Wei KE, Nasreen N, Wenn PZ, Wei CZ, A. Rahim NA, M. Rasli NAA, Omar Sukri HS
Department of Pharmacy, Hospital Tengku Ampuan Afzan, Kuantan, Pahang.

Background: Insulin is considered main therapy in diabetes mellitus (DM) management. The insulin injection practice among patients remains questionable. Proper insulin injection practice is important besides insulin type selection and dose titration.

Objective: This study aims to assess insulin injection practice and to determine factors associated with insulin injection practice.

Method: Total of 152 hospitalised patients who were at least 18 years old and received insulin for at least 4 weeks were included. Insulin injection practice consisted of insulin injection technique, needle reuse, injection site rotation, insulin storage and needle disposal were assessed as reference to Forum for Injection Technique Malaysia (FIT-MY).

Results: Majority of patients were female (59.2%), Malay (78.3%), type 2 DM (93.4%) and with secondary school education (44.7%). The median age was 57.0 years, diagnosed with DM with median of 11 years and used insulin with median of 5 years. Half of the patients followed up at hospital and median for distance from follow up facility was 7.1 km. Overall, 84.9% of patients performed poor insulin injection practice. Most patients did not change needle (n = 149, 98.0%), did not perform correct injection site rotation (n= 137, 90.1%), did not store insulin correctly (n= 115, 75.7%), did not dispose needles safely (n = 107, 70.4%) and did not perform correct injection technique (n = 86, 56.6%). Patients followed up at hospital were 3.4 times associated with poor insulin injection practice as compared to patients followed up at klinik kesihatan.

Conclusion: Inadequate insulin injection practice is common among DM patients. Each step is important to ensure accurate delivery of prescribed insulin dose to achieve good glycaemia control, prevent hypoglycemia and to avoid needle prick injury with inappropriate needle disposal. Assessment and re-education on insulin injection practice should be performed periodically despite blood glucose monitoring and dose adjustment to improve pharmacotherapy quality.

PHARMACY R&D

Title: Antibiotics Trends and Utilization among Hospitalized Paediatric Patients in Hospital Tengku Ampuan Afzan Kuantan.

Author: Jamil Khir NW, Salleh NH, Kamaruzaman S, Lee TS, Jamal JA
Department of Pharmacy, Hospital Tengku Ampuan Afzan, Kuantan.

Background: Antibiotic resistance is a major problem faced in resource-limited countries where there is high burden of infectious disease. The main contributor to the development of antimicrobial resistance worldwide is antimicrobial overuse. Because of the climbing rates of antimicrobial resistance and limited new antibiotic discovery, it is crucial to reduce inappropriate antibiotic use especially in neonatal and paediatric population.

Objectives: The objectives of this study are to describe the consumption rate and prescribing patterns of selected antibiotics among hospitalized paediatric patients and to compare the cost and usage of antibiotics between dispensed data and audit data.

Method: An observational prospective study of selected antibiotics prescribed for paediatric patients in wards 6C (General paediatric), 6B (PICU) and 6A (NICU) in HTAA from January 2019 until June 2019 was conducted using a data collection form. Antibiotics involved were Polymycin E (Colistimethate) Meropenem, Imipenem, Vancomycin, Ceftriaxone, Ceftazidime, Cefepime, Ciprofloxacin, Linezolid, Piperacillin/Tazobactam. All patients eligible in this study were identified by research personnel. The number of patients' admissions to the ward was obtained from Ward Registration Department. The number of antibiotics dispensed by inpatient pharmacy to the selected wards was obtained from bin cards. Price of each antibiotics were extracted from the Pharmacy Information System (Phis).

Results: The higher sample size is from NICU ward which is 180, followed by PICU with 59 and 6C is 58. For NICU, the total days of therapy (DOT) varied from 354 to 3. The most commonly prescribed antibiotics were imipenem (354 DOT) followed by piperacillin/tazobactam (56 DOT) and meropenem (52 DOT). In PICU, piperacillin/tazobactam (208 DOT) was the most commonly prescribes antibiotics. Ceftriaxone (173 DOT) and imipenem (79 DOT) were the second and third most frequently prescribed antimicrobials. Meanwhile, in 6C, the highest DOT is ceftriaxone (165 DOT) followed by piperacillin/tazobactam (97 DOT) and imipenem (93 DOT). For Prescribed Daily Dose (PDD), the most commonly used antibiotic used in ward NICU and 6C is piperacillin/tazobactam. Meanwhile for ward PICU most commonly used antibiotic is ceftriaxone. The antibiotic consumed and dispensed recorded almost similar volumes of antimicrobials except Ceftazidime, Ciprofloxacin and Piperacillin/Tazobactam where high variance between audit data and dispensed data was observed.

Conclusion: Among paediatric wards in HTAA, from January till June 2019, the antibiotic consumed from paediatric ward in HTAA differs in between NICU, PICU and 6C due to different prevalence in site of infection. Based on dispensed data in pharmacy, the most commonly used antibiotic among hospitalized patient in HTAA is Piperacillin-Tazobactam, Ceftazidime and Ceftriaxone. To conclude prescribing patterns, in general, commonly prescribed antibiotic in 6A is Imipenem while in ward 6B is Ceftriaxone and in ward 6C is Piperacillin-Tazobactam. In addition, the variance between antibiotic consumed and dispensed recorded were low except for Ceftazidime, Ciprofloxacin and Piperacillin/Tazobactam where very high variance was observed. Comparing the cost of antibiotics used among all wards, 6C reflected the highest total cost.

4th June 2021
Farmasi Bekalan
Wad

FAREWELL OF DR SAHIMI & DR AIN

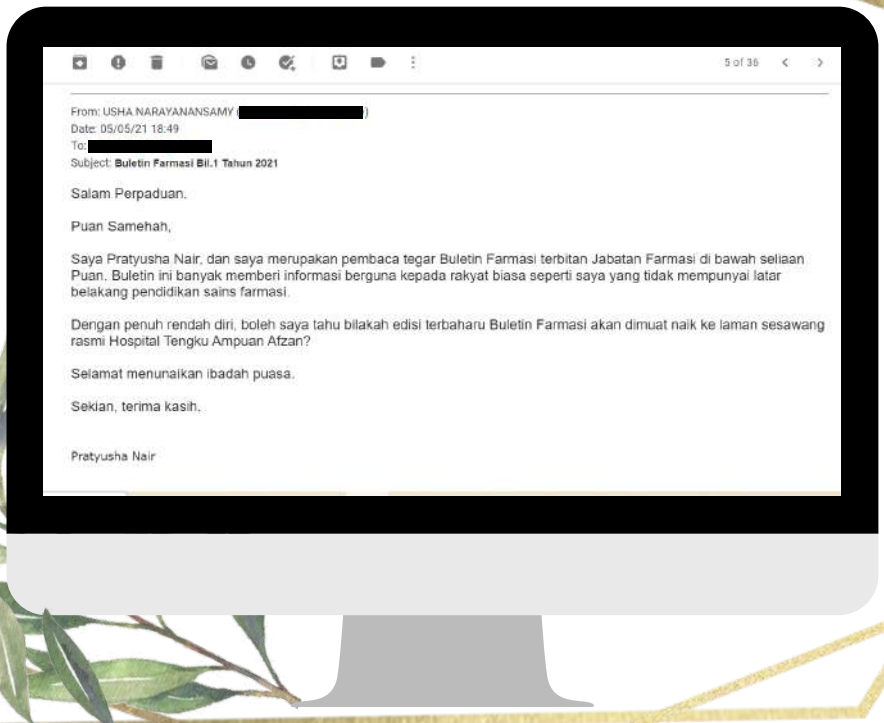
04. 06 2021

THANK YOU FOR YOUR INSPIRATION, GUIDANCE, ENCOURAGEMENT AND SUPPORT!

PHOTO SESSION WITH PN SAMEHAH & KETUA UNIT

FAREWELL SPEECH FROM PN MASTURA

Editor's Highlight



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From: USHA NARAYANANSAMY ([redacted])
Date: 05/05/21 18:49
To: [redacted]
Subject: **Buletin Farmasi Bil.1 Tahun 2021**

Salam Perpaduan.

Puan Samehah,

Saya Pratyusha Nair, dan saya merupakan pembaca tegar Buletin Farmasi terbitan Jabatan Farmasi di bawah seliaan Puan. Buletin ini banyak memberi informasi berguna kepada rakyat biasa seperti saya yang tidak mempunyai latar belakang pendidikan sains farmasi.

Dengan penuh rendah diri, boleh saya tahu bilakah edisi terbaharu Buletin Farmasi akan dimuat naik ke laman sesawang rasmi Hospital Tengku Ampuan Afzan?

Selamat menunaikan ibadah puasa.

Sekian, terima kasih.

Pratyusha Nair

1/4

Rasa bersalah

Takut

Let's TALK
Minda Sihat
Mhpss Moh
MHPSS KKM

ANDA POSITIF COVID-19 YANG DI KUARANTIN DI RUMAH?

Sedih/ Kecewa

2/4

Cepat Marah

Ganggguan tidur

Let's TALK
Minda Sihat
Mhpss Moh
MHPSS KKM

ANDA POSITIF COVID-19 YANG DI KUARANTIN DI RUMAH?

Bimbang/Resah

Perubahan selera makan

3/4

❶ Berhubung dengan orang yang anda sayangi melalui telefon, teks dan media sosial

❷ Amalkan pemakanan seimbang dan tidur yang mencukupi serta teruskan pengambilan ubat-ubatan mengikut jadual bagi penyakit sedia ada

Let's TALK
Minda Sihat
Mhpss Moh
MHPSS KKM

❸ Dapatkan maklumat tentang COVID-19 dari sumber sahih

APA YANG BOLEH ANDA LAKUKAN?

❹ Wujudkan rutin penjagaan diri mengikut SOP

4/4

❺ Terus melakukan aktiviti-aktiviti yang anda gemari seperti mendengar muzik, membaca, bersenam dan menonton rancangan / filem kegemaran atau berkebun

Let's TALK
Minda Sihat
Mhpss Moh
MHPSS KKM

❻ Belajar kemahiran (skill) baru dan cari aktiviti baru

❼ Fokus untuk mengamalkan teknik pernafasan, relaksasi dan senaman ringan

❽ Hadkan masa melayari media sosial tentang COVID-19

Putuskan Rantaian COVID-19

Pharmacy Bulletin

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