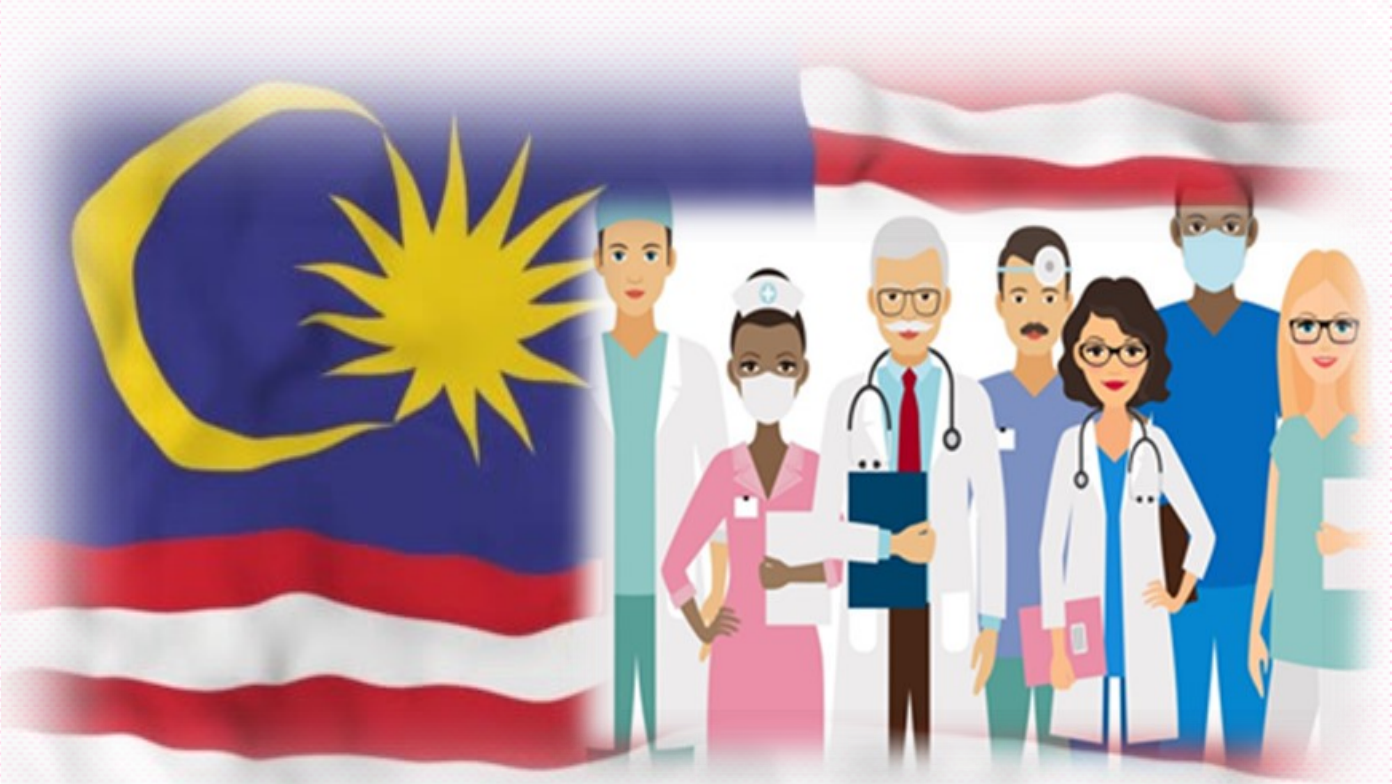
PHARMACY BULLETIN

HOSPITAL PERMAI JOHOR BAHRU VOLUME 01 / 2020



To All the Healthcare Workers,

Thank You for your Selfless Service, Dedication and Sacrifice in the Fight Against COVID-19

INSIDE THIS ISSUE

EDITORIAL BOARD

* *

This is a publication of the Pharmacy Unit, Hospital Permai Johor Bahru.

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HIGHLIGHT: COVID-19 - Know The Facts

Article by Fam Hwei Teng

Reference

1. COVID-19 infographics (2020), World Health Organization. Retrieved From https://www.who.int/westernpacific/news/multimedia/infographics/covid-19

MEDICATION SAFETY: Nitrosamine Impurities

Article by Syafizawati Binti Ghazali

Nitrosamines are chemicals commonly found in water and food like cured meats, dairy products and vegetables. Everyone is exposed to some level of nitrosamines from the intake of food, water or medication.

To date, FDA has found 3 types of Nitrosamine impurity in medications which include:

i. N-Nitrosodimethylamine (NDMA) (Allowed Daily Intake : 96.0ng/day)
ii. N-Nitrosodiethylamine (NDEA) (Allowed Daily Intake : 26.5ng/day)
iii. N-Nitroso-N-methyl-4-aminobutyric acid (NMBA) (Allowed Daily Intake : 96.0ng/day)

Exceeding the Allowed Daily Intake of nitrosamines is a health concern as it is considered as a Probable Human Carcinogen and the presence of nitrosamine impurities in medicines is regarded unacceptable.

The source of nitrosamines in medications can be due to:

i. Drug Manufacturing Process
ii. Chemical Structure of the Drug
iii. Storage or Packaging condition

Product Recalls by US FDA due to Nitrosamine Impurities

VALSARTAN, LOSARTAN, AND IRBESARTAN

⇒ Valsartan, Losartan, Irbesartan and other "-sartan" drugs are a class of medicines known as Angiotensin II Receptor Blocker (ARB) used to treat high blood pressure and heart failure.
⇒ In year 2018, US FDA learned and reported a product containing NDMA in Active Pharmaceutical Ingredient manufactured by Zhejiang Huahai Pharmaceuticals, Linhai, China and the agency believes that the NDMA is related to changes in the way the active substance was manufactured.
⇒ Several product recalls had been made from various manufacturers and FDA released a warning to manufacturers (Torrent and Mylan) for CGMP deviations.

RANITIDINE

⇒ Ranitidine is a histamine-2 blocker, which decreases the amount of acid created by the stomach.
⇒ It is an over-the-counter drug in some countries and a prescription drug in Malaysia.
⇒ In year 2019, US FDA detected that ranitidine products contained NDMA and called for voluntary recall of all ranitidine products from patients, companies and market.
⇒ Further investigations by FDA found that ranitidine products had NDMA at low levels initially and the impurity increased over time when stored at higher than room temperature, resulting in exposure of consumers to unacceptable levels of the impurity.

METFORMIN

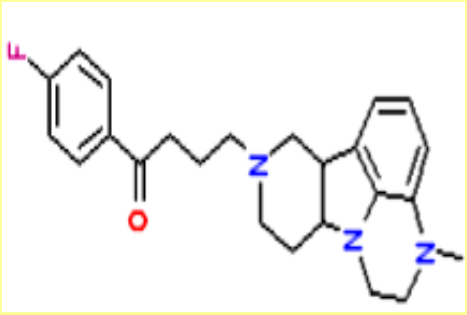
⇒ Metformin is a prescription drug used to control high blood sugar in patients with type 2 diabetes.
⇒ In December 2019, US FDA was alerted that metformin products in other countries were reported to have low level of NDMA and hence started investigating the metformin products for content of NDMA.
⇒ Findings of FDA were released in February 2020 stating that no sample of metformin that FDA tested exceeds the acceptable daily intake for NDMA – hence, NO product recall for Metformin was conducted.

Reference

1. Food and Drugs Administration. 2020. Information About Nitrosamine Impurities In Medications. Retrieved from : <https://www.fda.gov/drugs-safety-and-availability/information-about-nitrosamine-impurities>
2. Information Note Nitrosamine Impurities. (2020). Retrieved from: https://www.who.int/medicines/publications/drugalerts/InformationNote_Nitrosamineimpurities/en/#.XucdQaJ3MDE.link

KNOW YOUR MEDICINE: Lumateperone

Article by Tan Woei Yan



Brand Name: CAPLYTA
Indication: Schizophrenia in Adults
Dose: 42mg once daily with food.
Dose titration is not required
Dosage Modification:
i. NOT required in Renal Impairment
Ii. AVOID use in Moderate to Mild Hepatic Impariment (Child Pugh B or C)

- Lumateperone is a newly FDA approved atypical antipsychotic with a unique receptor binding profile.
- It is not listed in MOH Drug Formulary,Malaysia.
- It differs from other antipsychotics as it modulates glutamate, serotonin and dopamine, which are all neurotransmitters that contribute to the pathophysiology of schizophrenia.
- The mechanism of action of lumateperone in the treatment of schizophrenia is unknown. However, the efficacy of lumateperone could be mediated through a combination of antagonist activity at central serotonin 5-HT2A receptors and postsynaptic antagonist activity at central dopamine D2 receptors.
- Its selective action on dopamine (D2) receptors in the mesolimbic and mesocortical brain regions and its profile with a minimal off-target activity makes it a drug with better safety profile

Absorption	Highly lipophilic, absorbed in the small intestine and passes BBB
Steady State	5 days after oral administration
Cmax	1-2 hours of ingestion
Volume of Distribution	4.1L/Kg Intravenously
Protein Binding	97.4%
Metabolism	Extensively metabolized into 2 active metabolites : i. N-desmethylated carbonyl metabolite ii. N-desmethylated alcohol metabolite
Half life	18 hours after Intravenous
Elimination	58 % in the urine 29% in the feces

BLACK BOX WARNING !

Elderly patients with dementia related psychosis treated with antipsychotic drugs are at an increased risk of death.

CAPLYTA is NOT APPROVED for the treatment of patients with dementia related psychosis.

Adverse Effects

Sedation (24%)
Nausea (9%)
Extrapyramidal symptoms (6.7%)
Dry mouth (6%)
Dizziness (5%)
Creatine phosphokinase increased (4%)
Fatigue (3%)
Vomiting (3%)
Hepatic transaminase increased (2%)
Decreased appetite (2%)

References

1. National Center for Biotechnology Information. PubChem Database. Lumateperone, Retrieved from: https://pubchem.ncbi.nlm.nih.gov/compound/Lumateperone
2. DrugBank Database. Lumateperone. Retrieved from: https://www.drugbank.ca/drugs/DB06077
3. Medscape Database Lumateperone Rx. Retrieved from: https://reference.medscape.com/drug/caplyta-lumateperone-1000316#0

ADVERSE DRUG REACTION: Congenital Malformations & New Safety Measures for Sodium Valproate

Article by Diviyasri S. Soundra Rajan

⇒ Sodium Valproate causes congenital malformations in neonates (approximately 10% of cases), and serious developmental problems among children (30-40% of cases) whose mothers were exposed to sodium valproate during pregnancy.

⇒ Evidence shows that children with history of sodium valproate exposure in utero may experience delays in their early development and had increased risk of developmental disorders compared to the general study population.

⇒ The European Medicines Agency (EMA) restricted sodium valproate use in pregnancy and instructed product registration holders of sodium valproate products to prepare additional educational materials. Similarly, Drug Control Authority (DCA) of Malaysia has taken similar measures to contraindicate the use of sodium valproate to treat bipolar disorder and epilepsy in pregnancy women unless there is no suitable alternative medicine available.

Counselling Points

i. Advice patient/caretaker on congenital malformations & neurodevelopmental disorders risk associated with sodium valproate as well as the risk of untreated seizure or bipolar disorder
ii. Advise patient to use effective contraception without interruption throughout the entire duration of sodium valproate treatment
iii. Advise patient to not stop treatment abruptly and to contact doctor if currently planning for pregnancy or in case of suspected pregnancy
iv. Ensure patients received education materials such as patient card and patient guide that has been provided by the supplier of sodium valproate.

Additional Steps Taken by Drug Control Authority

Patient Card- Provide to all women of childbearing potential with every sodium valproate dispensation and make sure patient understand its content.

Annual Risk Assessment Form- To use during initiation of treatment and during each annual review of sodium valproate treatment by the prescriber and when a woman plans a pregnancy or is pregnant.

Guide for Healthcare Professionals- Educational material to reinforce warnings, provide guidance regarding use of sodium valproate in women of child-bearing potential and provide details of the pregnancy prevention programme to patients.

Guide for Female Patients/ Caregivers – Information provided to all women and girls who are prescribed with sodium valproate in child-bearing age

Sodium Valproate is CONTRAINDICATED in the following situations:

Diagnosis	Pregnancy	Women of Child Bearing Potential
Epilepsy	Contraindicated unless no suitable alternative treatment available	Contraindicated unless the conditions of PPP are fulfilled
Bipolar Disorder	Contraindicated	Contraindicated unless the conditions of PPP are fulfilled
Abbreviation: PPP = Pregnancy Prevention Programme		

References

1. Wan Abhar, W.N.A (2020). New safety measure for sodium valproate: (i) Risk of congenital malformation in neonates and neurodevelopmental problems in children exposed to sodium valproate during pregnancy; (ii) Additional educational material for healthcare professionals and patients/caretakers. Retrieved from: https://www.npra.gov.my/iml
2. Weston J., Bromley R., Jackson C.F., Adab N., Clayton-Smith J., Greenhalgh J., Hounsome J., McKay A.J., Tudur Smith C., Marson A.G. (2016). Monotherapy treatment of epilepsy in pregnancy: congenital malformation outcomes in the child. Cochrane Database of Systematic Reviews, Issue 11. Art. No.: CD010224

COUNSELLING POINTS: Injection Technique - IM Paliperidone

Article by Ng Hwee San

Paliperidone palmitate is an antipsychotic indicated for the treatment of schizophrenia & schizoaffective disorder as monotherapy and as an adjunct to mood stabilizers or antidepressants in adults.

There are 2 types of Paliperidone Injection:

i. Invega Sustenna® (Available in HPJB)
   - Once monthly preparation.
   - The first two doses are given 1 week apart.

ii. Invega Trinza® (NOT Available in HPJB)
   - Once every 3 months preparation.
   - Given after Invega Sustenna is used for at least 4 months.

Administration Instructions

⇒ Paliperidone Injection (INVEGA SUSTENNA® as available in HPJB) is intended for intramuscular use only

⇒ Do not administer by any other route

⇒ Each injection must be administered only by a healthcare professional, using only the needles that are provided

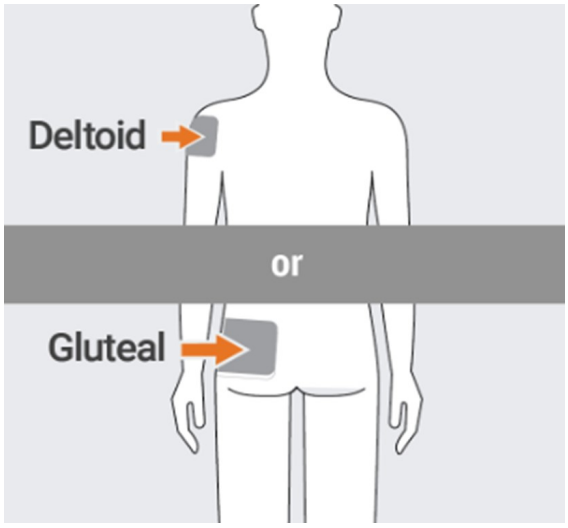
⇒ Administer the dose in a single injection; do not administer the dose in divided injections

Injection Sites

INVEGA SUSTENNA must be injected slowly and deeply into the deltoid or gluteal muscle.

Gluteal Injections

- Gluteal injections should be alternated between the two gluteal muscles
- The recommended needle size for administration of INVEGA SUSTENNA® into the gluteal muscle is 1½-inch, 22 gauge needle regardless of patient weight
- Administer into the upper-outer quadrant of the gluteal muscle



Deltoid Injections

- Deltoid injections should be alternated between the two deltoid muscles
- The recommended needle size for administration of INVEGA SUSTENNA® into the deltoid muscle is determined by the patient's weight:
  i. For patients weighing less than 90 kg, the 1-inch, 23 gauge needle is recommended
  ii. For patients weighing 90 kg or more, the 1 ½-inch, 22 gauge needle is recommended

WARNING:

INCREASED MORTALITY IN ELDERLY PATIENTS WITH DEMENTIA-RELATED PSYCHOSIS

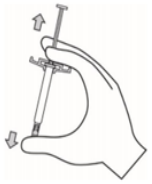
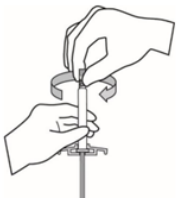
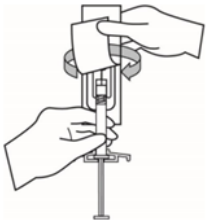
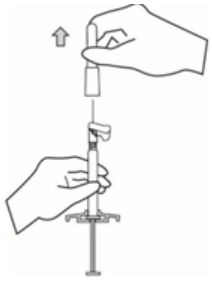
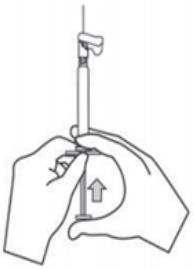
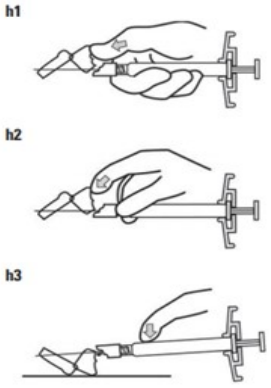
Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. INVEGA® is not approved for use in patients with dementia related psychosis.

Reference

1. Janssen Pharmaceutical Companies. (2018, July). Invega Sustenna®. Retrieved March 21, 2020, from http://www.janssenlabels.com/package-insert/product-monograph/prescribing-information/INVEGA SUSTENNA-pi.pdf

COUNSELLING POINTS: Injection Technique - IM Paliperidone

Article by Ng Hwee San

Step 1.	Shake the syringe vigorously for a minimum of 15 seconds to ensure a homogenous suspension. Selection of needle depends on injection area and patient's weight.	
Step 2.	While holding the syringe upright, remove the rubbertip cap with an easy clockwise twisting motion	
Step 3.	Peel the safety needle pouch half way open. Grasp the needle sheath using the plastic peel pouch. Attach the safety needle to the luer connection of the syringe with an easy clockwise twisting motion.	
Step 4.	Pull the needle sheath away from the needle with a straight pull. Do not twist the sheath as the needle may be loosened from the syringe.	
Step 5.	Hold the syringe upright and tap gently to make any air bubbles rise to the top. Remove air by pressing the plunger rod upward carefully until a drop of liquid comes out of the needle tip.	
Step 6.	Slowly inject the entire contents of the syringe intramuscularly, deep into the selected deltoid or gluteal muscle.	

FUKKM: Pindaan/Tambahan Ubat-Ubatan, Bil. 3/2019

New Drugs Approved to be Listed in FUKKM

Drug Name	Prescriber Category	Approved Indication(s)	Dose
Ceftolozane 1000mg & Tazobactam 500mg Injection	A* Infectious Disease Consultant/ Specialist	For the treatment of patients >18 years old with: i. Complicated Intra-abdominal Infections, to be used in combination with Metronidazole ii. Complicated UTI including Pyelonephritis *UTI: Urinary Tracy Infection	In patients >18 years old with normal or mild renal function, given by IV infusion over 1 hour i. 1.5g q8h for 4-14 days ii. 1.5g q8h for 7 days *q8h: every 8 hourly *IV: Intravenous
Afatinib Dimaleate 30mg & 40mg Film Coated Tablets	A* Consultant/ Specialists from Oncology/ Oncology Trained Respiratory Physician	1st line Monotherapy for the treatment of Epidermal Growth Factor Receptor (EGFR) TKI-naïve adult patients with locally advanced or metastatic non-small cell lung cancer (NSCLC) with activating EGFR mutation(s).	40mg once daily, taken without food. Maximum dose: 50mg OD. *OD: Once Daily
Nintedanib 100mg & 150mg Capsule	A* Consultant/ Specialists from Respiratory ONLY (Pulmonologist)	For the treatment of Idiopathic Pulmonary Fibrosis in adults	150mg BD administered approximately 12 hours apart.

Additional Indication Approved for Drug Listed in FUKKM

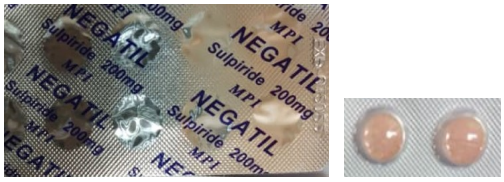
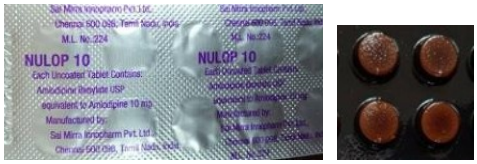
Drug Name	Prescriber Category	Approved to add Indication(s)	Dose
Zoledronic Acid 4mg Injection	A* Consultant/ Specialists from Oncology ONLY	Prevention of skeletal related events (SREs) for metastatic cancers of solid tumours	4mg reconstituted and should be given as a 15 minute IV infusion every 12 weeks (as advised in MaHTAS 2018 report).

Reference

1. Pekeling Pindaan/Tambahan Kepada Formulari Ubat-ubatan Kementerian Kesihatan Malaysia Bil. 3/2019, (17 Disember 2019), Kementerian Kesihatan Malaysia.

BRAND NAME CHANGES

Prepared by Nurul Asyikin Binti Zohari

GENERIC NAME	PREVIOUS BRAND	CURRENT BRAND
Tablet Olanzapine 5mg	<ZYPREXA 5mg> 	<OLENZA 5mg> 
Tablet Olanzapine 10mg	<ZYPREXA 10mg> 	<OLENZA 10mg> 
Tablet Sulpiride 200mg	<SULPIN> 	<NEGATIL> 
Tablet Amlodipine 5mg	<NULOP 5> 	<HOVASC 5mg> 
Tablet Amlodipine 10mg	<NULOP 10> 	<HOVASC 10mg> 

BRAND NAME CHANGES

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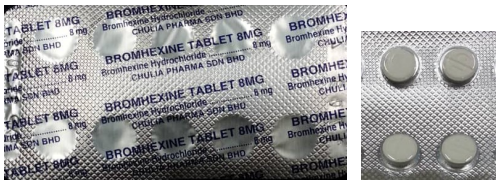
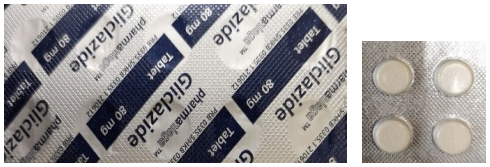
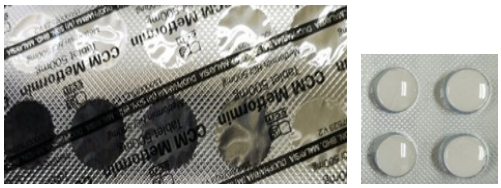
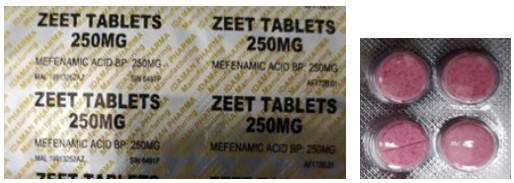
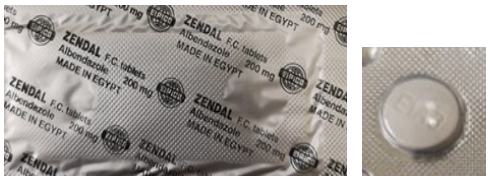
Tablet Bromhexine 8mg	<BROMHEXINE> 	<BISCOMIN> 
Tablet Gliclazide 80mg	<GLICLAZIDE> 	<DIAMITEX> 
Tablet Metformin 500mg	<METFORMIN> 	<GLUMET DC> 
Tablet Mefenamic acid 250mg	<ZEET> 	< MEFENAMIC> 
Tablet Albendazole 200mg	<ZENDAL> 	<CHAMPS D-WORMS> 

PHARMACY ACTIVITY

TEAM BUILDING

PULAI SPRINGS RESORT

21/12/2019

PHARMACY ACTIVITY

• Reboot Global Harmony •

WORLD
#QuranHour

...Misi Surah Ar Rahman

Misi Surah Ar-Rahman

20 Ramadan 1441H / 13 Mei 2020

Jam 12 tengah hari - 1 tengah hari

Satu jam bersama alQuran