PHARMACY BULLETIN

BIL 3/2017 SEPTEMBER-DECEMBER

BEKALAN UBAT DAN ALAT KEPADA PESARA PERKHIDMATAN AWAM PERSEKUTUAN DI FASILITI KESIHATAN KKM

STAFF UPDATES

EVENTS:
NETBALL TOURNAMENT
MAJLIS PERHIMPUNAN PAGI
PHARMILY DAY 2017

MEDICATION SAFETY UPDATES:
THALIDOMIDE & ANALOGS
HYOSCINE
PROTON PUMP INHIBITORS

DRUG UPDATES:
MICAFUNGIN
DOLUTEGRAVIR

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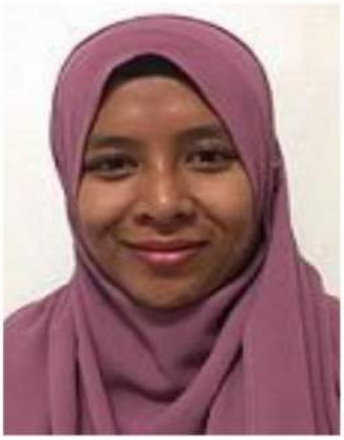
BY SARAH FARHANA

TRANSFERRED IN

NURUL 'AIN MOHD SAAD

Pegawai Farmasi UF44
Inpatient Pharmacy (Farmasi Bekalan Wad)
Transferred from Hospital Sri Manjung, Perak
Date reported duty in HTAA: 23rd October 2017



RABIATUL ADAWIYAH BT DALIM

Pegawai Farmasi UF41
Inpatient Pharmacy (Farmasi Bekalan Wad)
Transferred from Hospital Muadzam Shah, Pahang.
Date reported duty in HTAA: 6th November 2017

NURZURAINI BT YUSOF

Pegawai Farmasi UF44
Outpatient Pharmacy (Farmasi Klinik Pakar)
Transferred from Klinik Kesihatan Pekan Awah, Maran Pahang
Date reported duty in HTAA: 4th December 2017

TRANSFERRED OUT

MOHAMED ALIASRUDIN B JANTAN@ABDULLAH

Penolong Pegawai Farmasi UF32
Inpatient Pharmacy (Farmasi Bekalan Wad)
Transferred to Hospital Kuala Pilah, Negeri Sembilan
Date transferred out: 1st October 2017

NUR SAKEENAH BT ROSLAN

Pegawai Farmasi UF41
Inpatient Pharmacy (Farmasi Bekalan Wad)
Transferred to Jabatan Kesihatan Wilayah Persekutuan Kuala Lumpur & Putrajaya.
Date transferred out: 23rd October 2017

ASNIRAH BT MOHAMAD NASARUDIN

Pegawai Farmasi UF41
Inpatient Pharmacy (Farmasi Bekalan Wad)
Transferred to Hospital Sultanah Aminah, Johor Bahru.
Date transferred out: 29th October 2017

RESIGNATION

JASVEEN KAUR

Pegawai Farmasi UF41
Pharmacy Resourse and Information Centre
Date of resignation : 18th October 2017

MELODY YU JUN LI

Pegawai Farmasi UF41
Outpatient Pharmacy (Farmasi Makmur)
Date of resignation : 1st November 2017

RETIREMENT

WONG OON LAI

Penolong Pegawai Farmasi UF32
Inpatient Pharmacy (Farmasi Satelit)
Date of retirement: 1st November 2017

Good bye and good luck!

SALAM TAKZIAH

kepada keluarga

ALLAHYARHAM MOHD SAMSUDDIN
BIN ABD RAHMAN

Penolong Pegawai Farmasi UF32

Yang telah kembali ke rahmatullah
pada 1 Oktober 2017

Semoga rohnya dicucuri rahmat dan ditempatkan
dikalangan mereka yang beriman

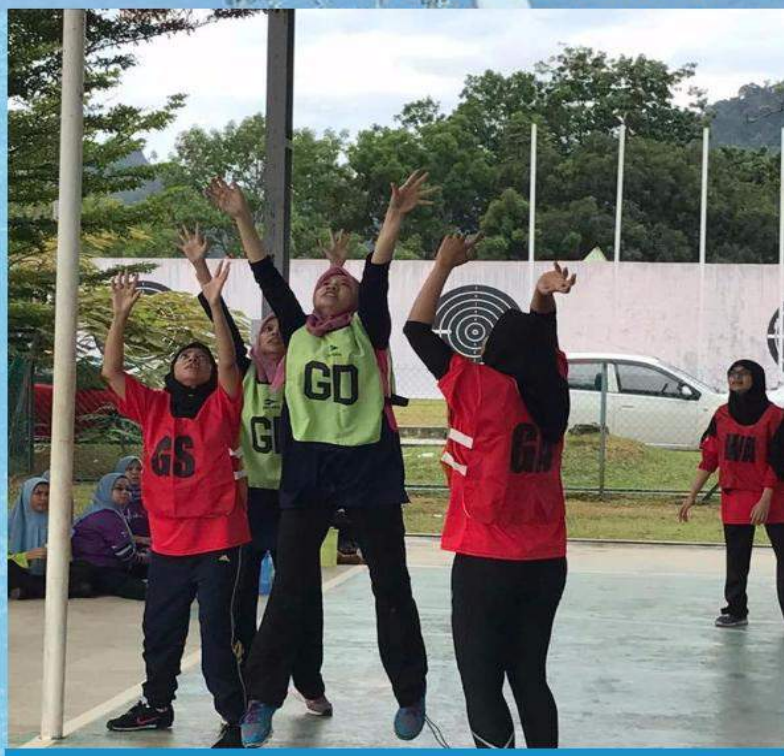
Daripada
Seluruh warga Jabatan Farmasi
Hospital Tengku Ampuan Afzan

AL-FATIHAH

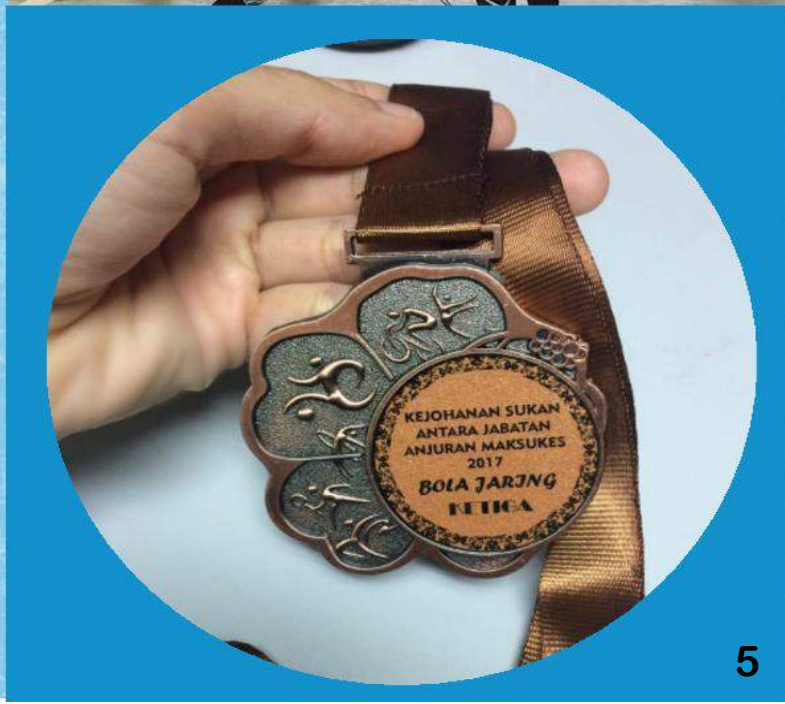
Netball Tournament

Kejohanan Sukan Antara Jabatan/ Unit MAKSUKES 2017

prepared by Voon Hui Shun



On the 9th of September 2017, group representative 'Pharmnet' from Jabatan Farmasi participated in a netball tournament held at Gelanggang Majlis Sukan Pahang (SUKPA), Kuantan. It was organized by MAKSUKES HTAA under HTAA inter-department/unit sports event, 'Kejohanan Sukan Antara Jabatan/Unit MAKSUKES 2017'. Pharmnet won third place, while Jabatan Patologi came second and the champion for the netball tournament was Jabatan Nefrologi. The display of fair play and good sportsmanship by all participants made the tournament an enjoyable and meaningful event.



Majlis Perhimpunan Pagi HTAA Bulan November 2017

prepared by-Yoon Hui Shun

On the 2nd of November 2017, Jabatan Farmasi was scheduled to organize "Majlis Perhimpunan Pagi HTAA Bulan November 2017" which was HTAA's very own monthly staff assembly. The event was held at Auditorium ACC HTAA from 8am to 9am.

Arrival of guests from different departments in HTAA.

Congregation led by choir in singing 'Negaraku', 'Allah Selamatkan Sultan Kami' and 'Kami Sedia Membantu'.

Speech delivered by Dr Norasmiza Bt Abdul Manaf, Timbalan Pengarah (Klinikal 1).

Special performance by 'Pharmbuskers' with the theme of 'Kenali Ubat Anda'.

PHARMILY DAY 2017

Disediakan oleh: Lim Pei Ling

Pada 11 November 2017, program Hari Keluarga, *Pharmily Day* telah dianjurkan oleh *PharmCare* Jabatan Farmasi HTAA di *De Rhu Beach Resort* yang terletak di Balok, Pahang. Acara bermula seawal jam 7.30 pagi dan berakhir sekitar jam 2.00 petang. Beberapa acara *telematch* telah diadakan bagi golongan dewasa dan juga kanak-kanak. Kehadiran dan penyertaan yang menggalakkan daripada kalangan ahli keluarga anggota Jabatan Farmasi turut memeriahkan lagi program ini. Aktiviti lain yang turut dijalankan ialah cabutan bertuah, persembahan oleh wakil unit-unit farmasi serta Mesyuarat Agung Tahunan untuk pemilihan ahli jawatankuasa bagi tahun 2018. Aktiviti yang menggalakkan gaya hidup sihat dan mengeratkan silaturahim antara anggota Jabatan Farmasi ini adalah amat bermanfaat dan harus diteruskan.

MEDICATION SAFETY UPDATES

BY AIN FARAHANIM MAISARAH BT MOKHTAR

THALIDOMIDE: RISK OF HEPATITIS B REACTIVATION, HERPES ZOSTER AND PULMONARY HYPERTENSION

Overview:
Thalidomide is indicated for patient with multiple myeloma and for acute treatment of cutaneous manifestations of moderate to severe Erythema Nodosum Leprosum (ENL).

NPRA Updates:
Viral reactivation:
- Some serious cases of viral reactivation such as herpes zoster and hepatitis B virus has been reported in patient treated with thalidomide, who is having pre- existing risk factors, including old age and underlying progressive multiple myeloma.
- The risk of viral reactivation may further increased in patient previously infected with herpes zoster or HBV virus. Some cases of HBV reactivation may be progressed to acute hepatic failure and resulted in death.

Pulmonary hypertension:
- Thalidomide treatment has been linked to reports of pulmonary hypertension, some cases fatal.

NPRA recommendations:
- HBV virus status should also be established before initiating treatment with thalidomide.
- Consultation with a physician with expertise in the treatment of hepatitis B is recommended for patients who test positive for HBV infection.
- Patient who previously infected with herpes zoster or HBV virus should closely monitored for signs and symptoms of viral reactivation throughout therapy.
- Patients should be evaluated for signs and symptoms of underlying cardiopulmonary disease prior initiating and during thalidomide therapy.

HYOSCINE BUTYLBROMIDE INJECTION: RISK OF SERIOUS ADVERSE EFFECTS IN PATIENT WITH UNDERLYING CARDIAC DISEASE

Overview:
Hyoscine is an antispasmodics agent that is used to relive spasms in the stomach, intestines or bladder.
In Malaysia, hyoscine butylbromide injection is approved to treat gastrointestinal or genitourinary tract spasms, as well as motility disorder of the biliary system. It is also indicated to reduce oral secretion before surgery.

NPRA Updates:
- From the total reports received by NPRA, 57 were related to hyoscine butylbromide injectable products.
- Some patients who received hyoscine injections were reported to suffer shortness of breath, blurred vision and flushing.
- There were also adverse events involving System Organ Class (SOC) Cardiac Disorders, including palpitation, tachycardia and syncope.

NPRA recommendations:
- Hyoscine butylbromide injection can cause adverse effects such as tachycardia, hypotension and anaphylaxis.
- More serious and exercise caution is needed in patient with underlying cardiac disease, including those with heart failure, coronary heart disease, cardiac arrhythmia or hypertension.
- Ensure that resuscitation facilities are readily available for these patients.

PREPARED BY: AIN FARAHANIM MAISARAH BT MOKHTAR

PROTON PUMP INHIBITORS: UPDATES ON WARNINGS AND ADVERSE EFFECTS

Overview:

Proton Pump Inhibitor is a group of drug that plays an important role in reducing acid production in the stomach by blocking enzymes that are on the surface of the abdomen. However, the use of PPI in the long term has been found to cause some adverse effects. The Pharmaceutical Services Division has updated the warning and adverse effects information in FUKKM for all preparations containing the proton pump inhibitors (PPIs) as below:

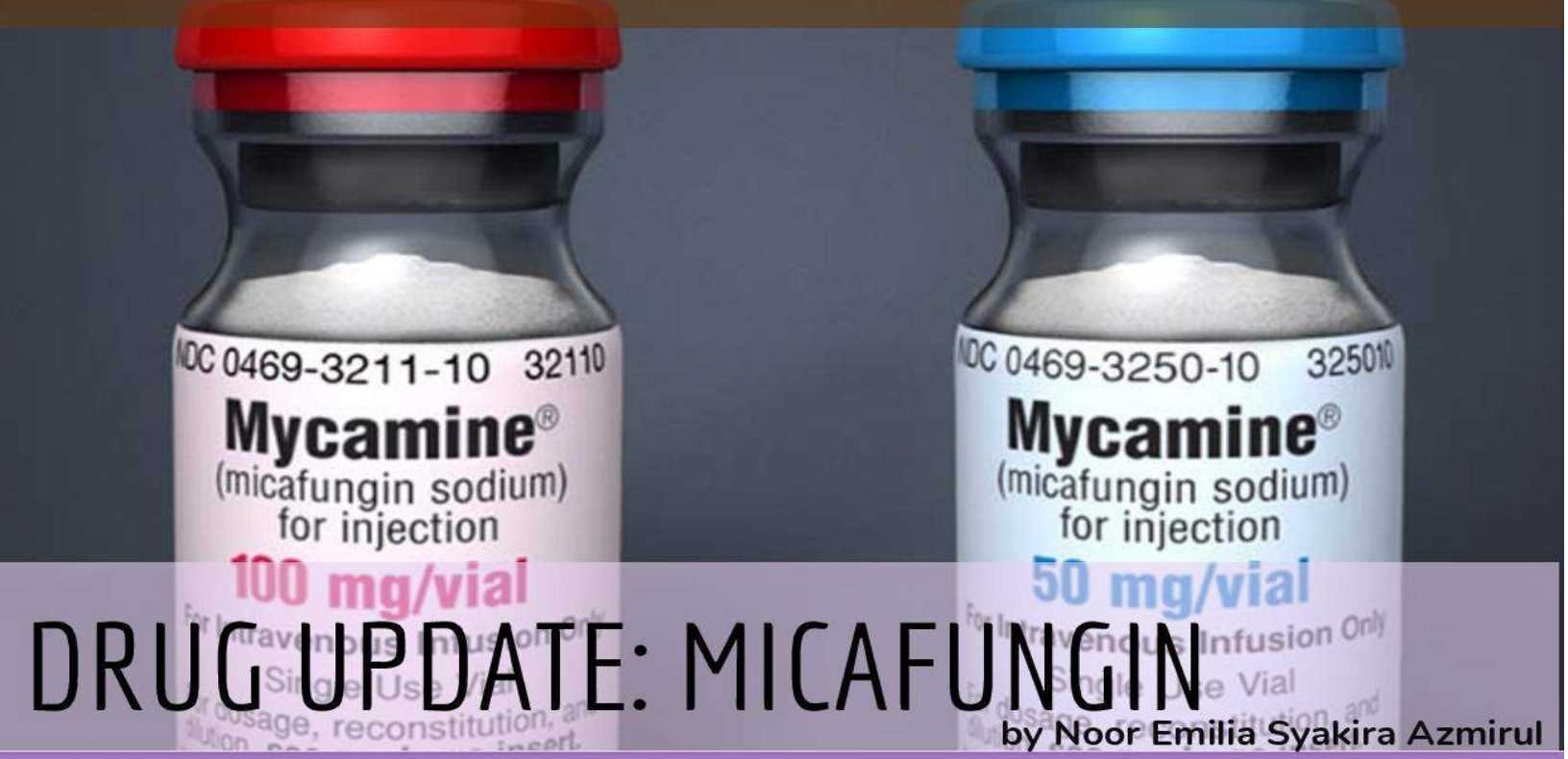
i)Warnings:

(a) Interference with laboratory tests - The use of PPIs is associated with increased Chromaginin A (CgA) level that may interfere with investigations for neuroendocrine tumours. PPI therapy should be stopped for at least 5 days before CgA measurements to avoid interference.

ii)Adverse effects:

(a) The used of PPIs are associated with very infrequent cases of sub-acute cutaneous lupus erythematosus (SCLE).
(b) Severe hypomagnesaemia has been reported in patients treated with PPIs for at least 3 months, and in most cases for a year.
(c) PPIs, especially if used in high doses and over long duration (>1 year), may modestly increase the risk of hip, wrist and spine fracture, predominantly in elderly or in the presence of other recognized risk factors. Observational studies suggest that PPI may increase the overall risk of fracture by 10-40% which might be due to other risk factors too.
(d) Published observational studies suggest that PPI therapy may be associated with increased risk of Clostridium difficile associated diarrhea, especially in hospitalized patients.
(e) Daily treatment with any acid-suppressing medications over a long period of time may lead to malabsorption of cyanocobalamin (vitamin B12).

Any further information regarding the directive can be downloaded from the NPRA website (http://npra.moh.gov.my).



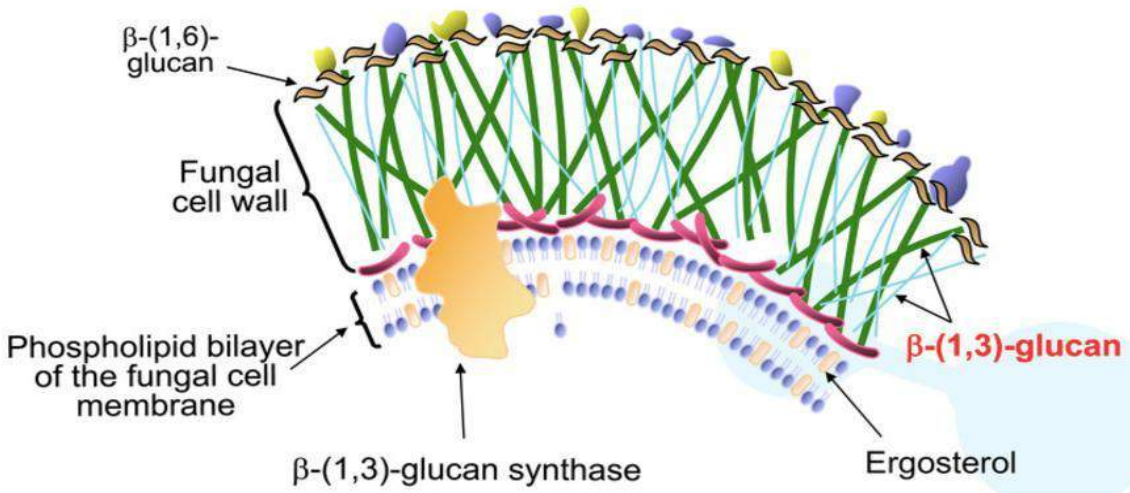
DRUG UPDATE: MICAFUNGIN

by Noor Emilia Syakira Azmirul

Micafungin belongs to a class of antifungal drugs known as echinocandins. It is indicated for the treatment of invasive candidiasis, including candidemia in adults when intolerance or resistance to Amphotericin or Fluconazole.

MECHANISM of ACTION

MICAFUNGIN targets synthesis of β-(1,3)-glucan in fungal cell wall;
Target validated by echinocandins



Micafungin acts by inhibiting 1,3-beta-D-glucan synthesis through the inhibition of 1,3-beta-D-glucan synthase. 1,3-beta-D-glucan is a glucose polymer that is necessary for maintaining the structure of fungal cell walls. In the absence of this polymer, fungal cells lose integrity which eventually leads to cellular lysis.

DOSING REGIMES

Invasive Candidiasis 100mg/day

No renal or hepatic dose adjustment needed.

ADMINISTRATION

1. Reconstituted dose can be diluted in 100 ml normal saline or 5% dextrose in water.
2. Diluted solution need to be administered within 24 hours of dilution.
3. Diluted solution need to be infuse over 1 hour and cannot be administered as an IV bolus injection

PHARMACOKINETICS

PROPERTIES

ABSORPTION

Tmax: 4 hours

DISTRIBUTION

Distributes into lung, liver and spleen; minimally to central nervous system and eyes. Binds to albumin > 99%.

METABOLISM

Micafungin is metabolized to M-1 (catechol form) by arylsulfatase, with further metabolism to M-2 (methoxy form) by catechol-O-methyltransferase. Besides that, M-5 is formed by hydroxylation at the side chain (w-1 position) of micafungin catalyzed by cytochrome P450 (CYP) isozymes. Even though micafungin is a substrate for and a weak inhibitor of CYP3A in vitro, hydroxylation by CYP3A is not a major pathway for micafungin metabolism in vivo.

EXCRETION

Half-life : 10.7 to 17.2 hours (Adults), 12-21 hours (Pediatrics)

[Bile 40%, Fecal 71%, Renal 15% or less unchanged]

Since micafungin is highly protein bound, it is not dialyzable.

SAFETY PROFILE

PREGNANCY CATEGORY	BREAST FEEDING CONSIDERATION
CATEGORY C Use only if benefit outweigh risk	Manufacturer recommends that caution be exercised when administering micafungin to nursing women.

ADVERSE EFFECTS

Headache

Diarrhea

Hypersensitivity reactions

PRESCRIBER CATEGORY & DEPARTMENT

A*

Approved in HTAA for haematology unit

References
1. Micromedex. Drug Information :Micafungin Sodium
2.Ministry of Health Medicine Formulary (MOHMF); Micafungin Sodium
3. Lexicomp,Lexi-Drugs; Micafungin

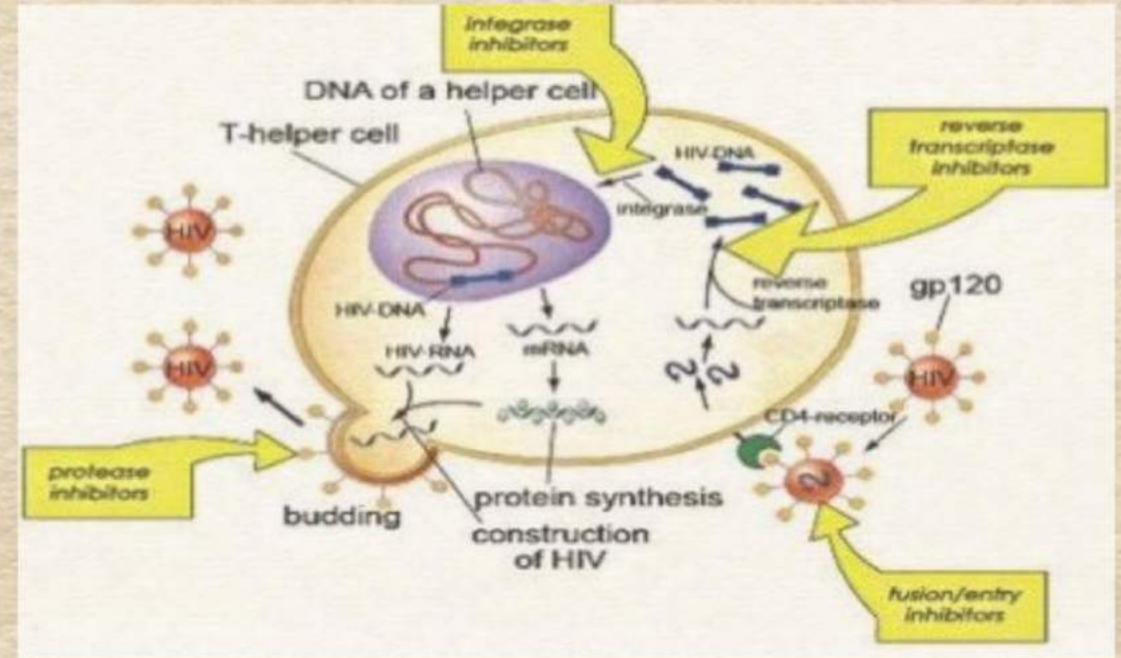
DRUG UPDATE : DOLUTEGRAVIR

By : ANUSHA A/P MUDIARASU

Dolutegravir is a second generation HIV integrase strand transfer inhibitor(INSTI). It is the most recent antiviral drug that has been approved and listed in the Ministry of Health Medicines Formulary (MOHMF). It is indicated in combination with other anti-retroviral medicinal products for the treatment of Human Immunodeficiency Virus (HIV) infected adults and adolescents above 12 years of age weighing at least 40 kg, and it is restricted for patients who are not able to tolerate or failing of treatment or resistance to the first line therapy(Efavirenz and Nevirapine).

MECHANISM OF ACTION

Dolutegravir binds to the active site of integrase, a HIV enzyme that catalyzes the transfer of viral genetic material into human chromosomes. This action prevents integrase from binding to retroviral deoxyribonucleic acid (DNA), and blocks the strand transfer step, which is essential for the HIV replication cycle. In conclusion it prevents HIV-1 replication.



Drug dosing

- 50 mg OD for HIV-1 patient without documented or clinically suspected resistance to integrase class or 50 mg BD for HIV-1 patient with resistance to the integrase class
- Dolutegravir may be taken with or without food
- Effects of food: Increased extent, decreased rate of absorption

Drug adjustment

Renal:

- No dosage adjustment required for with mild, moderate, or severe renal impairment
- Severe renal impairment: Use with caution

Hepatic:

- Mild-to-moderate hepatic impairment (Child-Pugh A or B): No dosage adjustment required
- Severe hepatic impairment (Child-Pugh C): Not recommended

Pregnancy and breastfeeding

- Pregnancy category: Category B
- Fetal risk cannot be ruled out
- Breast feeding: Infant risk cannot be ruled out

Absorption

- T max: 2 to 3 hours post single dose
- Steady state: achieved within approximately 5 days

Distribution

- Dolutegravir is highly protein bound (≥98.9%) to human plasma proteins.
- Volume of distribution (Vd/F), 50 mg once daily = 17.4 L.

Metabolism

- Dolutegravir is primarily metabolized by UGT1A1 with some minor contributed CYP3A.

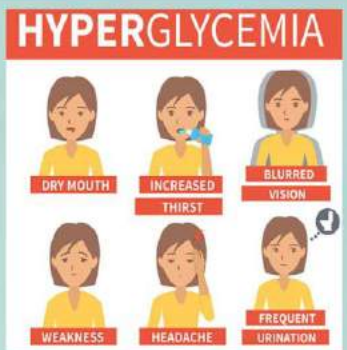
Elimination

- 53% is excreted unchanged in the faeces
- 31% is excreted in urine
- Half-life: 14 hours
- Renal elimination of unchanged drug was low (<1%)

References:
1) Drug Formulary book (updated on December 2017)
2) Micromedex
3) Lexicomp (Drug Information Handbook)

Adverse effects

Headache



Insomnia

Prescriber category

A *

BEKALAN UBAT DAN ALAT KEPADA PESARA PERKHIDMATAN AWAM PERSEKUTUAN DI FASILITI KESIHATAN KKM

Disediakan oleh: Norhasila binti Hassim

Perintah Am Bab F Tahun 1974 menetapkan bahawa pegawai dan pesara Perkhidmatan Awam Persekutuan yang menerima pencen serta ahli keluarga yang berkelayakan layak diberi kemudahan perkhidmatan percuma di hospital atau klinik Kerajaan. Antara kemudahan perubatan yang disediakan termasuklah pembekalan ubat dan alatan ubatan.

Sebelum ini, Jabatan Perkhidmatan Awam bertanggungjawab dalam mengendalikan fungsi pembekalan ubat atau alatan perubatan dan lain-lain kemudahan perubatan kepada golongan ini. Namun begitu, mulai 1 Jun 2017, fungsi ini telah dipindahkan kepada Kementerian Kesihatan Malaysia (KKM), Kementerian Pendidikan Tinggi (KPT) dan Kementerian Pertahanan (KP).

Sehubungan dengan itu, KKM telah mengeluarkan Surat Pekeliling KSU Bil. 11/2017 yang mengandungi panduan perlaksanaan kaedah pembiayaan bekalan ubat dan alat kepada pesara di fasiliti KKM.

Kelayakan:

- Pesara Perkhidmatan Awam Persekutuan
- Veteran Berpencen

* serta ahli keluarga yang berkelayakan (berdasarkan Pekeliling Perkhidmatan (PP) Bil 21/2009

Jenis kemudahan yang terlibat:

- Pembekalan ubat
- Pembekalan alatan perubatan

PEMBEKALAN UBAT-UBATAN

Syarat-syarat pembekalan

- Mematuhi Garis panduan permohonan memperolehi dan menggunakan ubat-ubatan yang memerlukan kelulusan Khas Ketua Pengarah Kesihatan (KPK)/Pengarah Kanan Perkhidmatan Farmasi (Edisi pertama Ogos 2016) atau pindaannya
- Menepati surat Bahagian Perkhidmatan Farmasi rujukan KKM 100-2/5/14 Jld.2 (58) bertarikh 17 Mac 2017 atau pindaannya
- Pembekalan ubat glucosamine selaras dengan surat Pejabat Timbalan Ketua Pengarah Kesihatan (Perubatan) rujukan KKM 87/P1/18/12 Jld.13 (39) bertarikh 29 Jun 2015

Tatacara permohonan

Pembekalan ubat dalam FUKKM
1. Pesara mendapatkan rawatan di fasiliti kesihatan KKM
2. Semakan status kelayakan pesara
3. Pegawai Perubatan Kerajaan (PPK) preskrib ubat dan cop PESARA pada preskripsi sebagai identifikasi kepada pihak farmasi
4. Farmasi di fasiliti kesihatan KKM membekalkan ubat

Pembekalan ubat luar FUKKM
1. Pesara mendapatkan rawatan di fasiliti kesihatan KKM
2. Semakan status kelayakan pesara
3. PPK preskrib ubat dan cop PESARA pada preskripsi sebagai identifikasi kepada pihak farmasi
4. Farmasi di fasiliti kesihatan KKM menyelaraskan pengisian Borang BPF/103-KPK01 (pindaan 4)
5. Farmasi di fasiliti kesihatan KKM mengemukakan permohonan untuk kelulusan KPK
6. Farmasi di fasiliti kesihatan KKM membekalkan ubat

Permohonan yang tidak dibenarkan:

- Permohonan perbelanjaan bagi pembekalan makanan atau makanan tambahan (food supplement) atau perubatan alternatif

PEMBEKALAN ALATAN PERUBATAN

Syarat-syarat pembekalan

- Mematuhi syarat-syarat dan peraturan yang ditetapkan dalam PP 21/2009 atau pindaannya

Tatacara permohonan

Pembekalan alatan perubatan dan alat-alat lain sehingga harga siling
1. Pesara mendapatkan rawatan di fasiliti kesihatan KKM
2. Semakan status kelayakan pesara
3. PPK peraku jenis dan spesifikasi alat kepada pesara menggunakan Borang Perubatan 1/09 [PP 21/2009]
4. Permohonan keperluan alat dikemukakan untuk kelulusan Pengarah Hospital/Pegawai Kesihatan Daerah
5. Fasiliti kesihatan KKM melaksanakan perolehan
6. Alat dibekalkan oleh pembekal kepada fasiliti kesihatan KKM
7. Prosedur/pembedahan dilakukan oleh PPK di fasiliti kesihatan KKM
8. Invois/delivery order dikemukakan kepada Bahagian Kewangan KKM untuk bayaran bersama-sama satu salinan kad pesara dan Borang Perubatan 1/09 untuk bayaran kepada pembekal

Pembekalan alatan perubatan dan alat-alat lain melebihi harga siling
1. Pesara mendapatkan rawatan di fasiliti kesihatan KKM
2. Semakan status kelayakan pesara
3. PPK peraku jenis dan spesifikasi alat kepada pesara menggunakan Borang Perubatan 1/09 [PP 21/2009]
4. Fasiliti kesihatan KKM mengemukakan permohonan keperluan alat untuk sokongan Bahagian Perkembangan Perubatan KKM
5. Fasiliti kesihatan KKM melaksanakan perolehan selepas mendapat sokongan Bahagian Perkembangan Perubatan KKM
6. Alat dibekalkan oleh pembekal kepada fasiliti kesihatan KKM
7. Prosedur/pembedahan dilakukan oleh PPK di fasiliti kesihatan KKM
8. Invois/delivery order dikemukakan kepada Bahagian Kewangan KKM untuk bayaran bersama-sama satu salinan kad pesara dan Borang Perubatan 1/09 untuk bayaran kepada pembekal

Permohonan pembekalan alatan dikendalikan oleh Unit Kewangan & Aset dan Unit Kewangan HTAA.