PHARMACY BULLETIN
BIL 3/2019
SEPTEMBER-DECEMBER

SPECIAL TOPIC

OVERACTIVE BLADDER

WHAT'S INSIDE?

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

HTAA NEW PHARMACY STAFF 2019

TRANSFERRED IN

NURUL NAJAHANI BINTI ZAINUDIN

PEMBANTU TADBIR N19

DATE REPORTED DUTY: 10 SEPTEMBER 2019

TRANSFERRED FROM PEJABAT KESIHATAN DAERAH JERANTUT

FARMASI LOGISTIK

CHRISTINA CHAN YUIN THENG

PEGAWAI FARMASI UF44

DATE REPORTED DUTY: 14 OCTOBER 2019

TRANSFERRED FROM KK BUKIT BESAR KOTA TINGGI, JOHOR

FARMASI WAD

BONG KUEK SIONG

PENOLONG PEGAWAI FARMASI U38

DATE REPORTED DUTY: 21 OCTOBER 2019

TRANSFERRED FROM HOSPITAL SIBU, SARAWAK

FARMASI KLINIK PAKAR

NEWLY APPOINTED

KHAIRUNNISA BINTI UBAIDILLAH

PEGAWAI FARMASI UF41

DATE REPORTED DUTY: 16 DISEMBER 2019

FORMER FRP IN KK FELDA BUKIT GOH

FARMASI MAKMUR

NURULAIN NATASHA BINTI SHAH RIZAN

PEGAWAI FARMASI UF41

DATE REPORTED DUTY : 16 DISEMBER 2019

FORMER FRP IN KK PAYA BESAR

FARMASI WAD

TRANSFERRED OUT

HAZWANI BT ABDUL HAMID

PEMBANTU TADBIR N19

DATE TRANSFERRED OUT: 21 SEPTEMBER 2019

TRANSFERRED TO PEJABAT KESIHATAN DAERAH KUANTAN

TRANSFERRED OUT

LIAN MING LEE

PEGAWAI FARMASI UF48

DATE TRANSFERRED OUT : 30 SEPTEMBER 2019

TRANSFERRED TO HOSPITAL BUKIT MERTAJAM, PULAU PINANG

WEE JIA LI

PEGAWAI FARMASI UF44

DATE TRANSFERRED OUT : 30 SEPTEMBER 2019

TRANSFERRED TO HOSPITAL SULTANAH NUR ZAHIRAH, TERENGGANU

NABILAHUDA SYAZWANI

PEGAWAI FARMASI UF44

DATE TRANSFERRED OUT: 7 OKTOBER 2019

TRANSFERRED TO HOSPITAL RAUB

HTAA INTERNAL RESHUFFLE

SHARIFAH NORHAFIZAH BINTI SYED AHMAD JAPILUS

PEMBANTU AWAM H11

RESHUFFLED FROM JABATAN PATOLOGI

DATE OF RESHUFFLE :15 OCTOBER 2019

ROHANA BINTI HUSSIN

PEMBANTU AWAM H11

RESHUFFLED TO JABATAN PATOLOGI

DATE OF RESHUFFLE :15 OCTOBER 2019

RESIGNED

MELATI BINTI TUMIRAN

PEGAWAI FARMASI UF41 (KONTRAK)

DATE RESIGNED : 7 NOVEMBER 2019

RESIGNED

TAN SAY LEE

PEGAWAI FARMASI UF44

DATE RESIGNED : 30 NOVEMBER 2019

CHAN CHIEN SHIH

PEGAWAI FARMASI UF41 (KONTRAK)

DATE RESIGNED : 4 DISEMBER 2019

NURUL MAHFUZAH BINTI BAHARUDDIN

PEGAWAI FARMASI UF41 (KONTRAK)

DATE RESIGNED : 4 DISEMBER 2019

CHEW KOK YIP

PEGAWAI FARMASI UF41 (KONTRAK)

DATE RESIGNED : 14 DISEMBER 2019

MEDICATION SAFETY ISSUES

FLUOROQUINOLONES

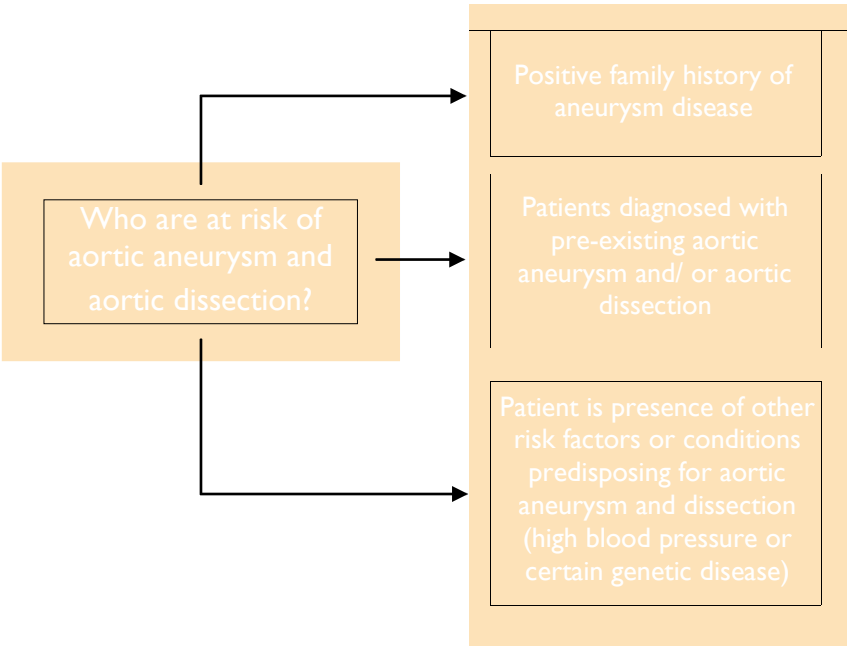
PREPARED BY:

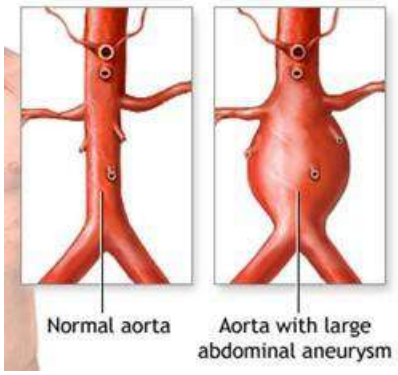
AISYAH SYAKIRAH

Safety Alert!

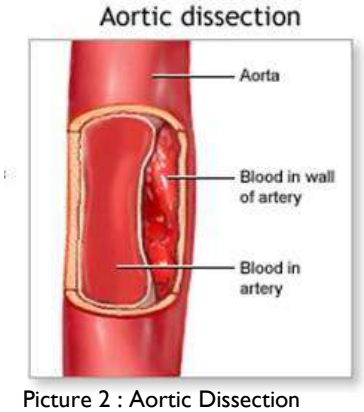
Fluoroquinolones (FQ) are bactericidal antibiotics that directly inhibit bacterial DNA synthesis results in cessation of DNA replication, DNA damage and cell death [1].

National Pharmaceutical Regulatory Agency (NPRA) has command to revise the safety information on the medicine packaging and its information leaflet (RiMUP) on the **risk of aortic aneurysm and aortic dissection** after intake of FQ, particularly in older population.





Picture 1: Aorta with large abdominal



Picture 2 : Aortic Dissection

Before you take Fluoroquinolones:

- Tell your healthcare provider if you have been diagnosed with an enlargement or "bulge" of large blood vesses
- Tell your healthcare providers if you have experienced a previous episode of aortic dissection(a tear in aorta wall)
- Tell your healthcare providers if you have a family history of aneurysm or aortic dissection or other risk factors pre disporing conditions.

Fluoraoquinolones in HTAA

Oral

Tab. Ciprofloxacin 250mg, 500mg

Tab. Levofloxacin 500mg

Tab. Moxifloxacin 400mg

Tab. Ofloxacin 100mg

Parenteral

Inj. Ciprofloxacin 200mg/100ml

Inj. Levofloxacin 500mg

In 19th July 2019, NPRA brings another safety issue in highlight. Warning regarding **disabling and potentially permanent side effects (tendinitis, tendon rupture, peripheral neuropathy, and central nervous system/neuropsychiatric defects)** had been made. [4] Fluoroquinolones should only used when Psedomonas is considered AND the patient is allergic to antipseudomonal penicillins/cephalosporins and for resistant organisms with no other alternative antibiotics available.

Tell your healthcare provider if you experience this:

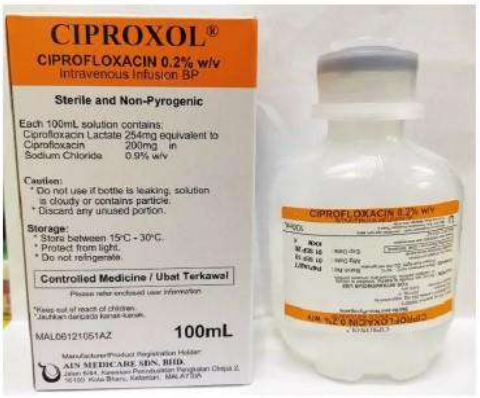
1. Tendon pain or swelling, often beginning in the ankle or calf-if this happens, rest the painful area until you see healthcare provider
2. Pain in your joints or swelling in your shoulder, arm or legs
3. Abnormal pain or sensations (such as persistent pins and needles tingling, tickling, numbness or burning), weakness in your body especially in the legs or arms or difficulty in walking
4. Severe tiredness, depressed mood, anxiety, problems with your memory or severe sleeping problem
5. Changes in your vision, taste, smell and hearing

Adverse Drug Reaction (ADR) reporting in HTAA -2016 until October 2019

There are 16 ADR reporting received in HTAA from 2016 until Oktober 2019, involving 15 cases of IV Ciprofloxacin and 1 Levofloxacin.

Among ADR reported include rashes (10)

Did you know that Injection Ciprofloxacin and Injection Metronidazole are look alike?



INJ. CIPROFLOXACIN 200MG

INJ. METRONIDAZOLE 500MG

References

1. David C Hopper, Stephen B Calderwood. 2019. Mechanism of action Fluoroquinolones. UpToDate. [Access on October 2019]
2. Fluoroquinolone and quinolone antibiotics: PRAC recommends restrictions on use. 2018. European Medicines agency. [Access on October2019]
3. MADRAC Bulletin 1/2019. Directive Reference Number. Ref (9) dlm.BPFK/PPP?07/25 Jilid 3
4. MADRAC Bulletin 2/2019. Directive Reference Number. Ref:12 dlm.BPFK/PPP07/25 Jilid 3

OVERACTIVE BLADDER

PREPARED BY : ANISAH BT TAHA

DEFINITION

Over Active Bladder (OAB) is defined as urinary urgency usually accompanied by frequency and nocturia, with or without urgency urinary incontinence [UUI], in the absence of urinary tract infection (UTI) or other obvious pathology. It is common in both sexes and the prevalence increases with age.

SIGNS AND SYMPTOMS

- Feel a sudden urge to urinate that's difficult to control.
- Experience urge incontinence - the involuntary loss of urine immediately following an urgent need to urinate.
- Urinate frequently, usually eight or more times in 24 hours.
- Awaken two or more times in the night to urinate (nocturia).

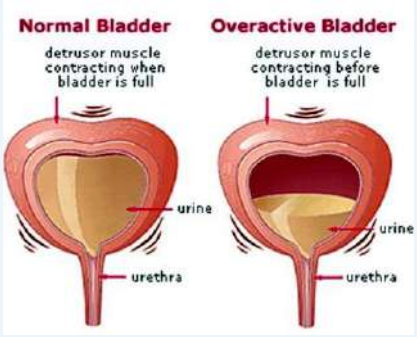
GOALS OF THERAPY

- Restoration of incontinence
- Reduction in urinary incontinence episode
- Prevention of complications
- Improvement of quality of life

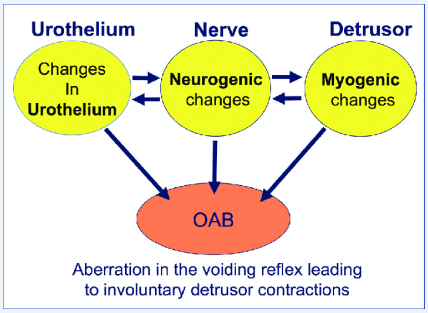
THE BACKGROUND

Urination involves a complex interaction of nerves and muscles. Normally, when a person's bladder begins to fill, neural impulses are transmitted through the pelvic nerves and spinal cord to subcortical and cortical centers in the brain. The supraspinal central nervous system inhibits the micturition reflex, allowing bladder filling without causing an urge to void while the cortical centers in the frontal lobe allow a volitional delay of urination.

In patients with OAB, the detrusor muscle contracts inappropriately during bladder filling/storage phase. These contractions often occur regardless of the amount of urine in the bladder.



OAB may result from a number of different causes, both neurogenic such as neurologic injuries or diseases ; and non-neurogenic such as postural changes in individual with peripheral venous and vascular disease, or use of certain medication.



FIRST LINE THERAPY

According to the guidelines for the treatment of OAB by the American Urological Association (AUA) and the Society of Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction (SUFU), the first line therapy is to offer behavioral therapies and education to patients with OAB.

1. BEHAVOURIAL THERAPY

- Bladder training, Pelvic Muscle Floor (PMF) Therapy, weight control, management of fluid intake and dietary modification

2. LIFESTYLE CHANGES

- Physical exercise and smoking cessation

3. PATIENT EDUCATION

- Education empowers patients to engage and participate in their treatment.

SECOND LINE THERAPY

Anticholinergic agents are currently the first-line pharmacologic therapy for OAB. These agents are thought to act primarily by inhibiting involuntary detrusor muscle contractions (at the level of the efferent pathway). The goals of therapy with anticholinergic agents are to prevent inappropriate detrusor contractions and to maintain normal bladder function, while minimizing adverse effects.

DRUG	MODE OF ACTION	DOSE	REMARKS
OXYBUTYNIN CHLORIDE 5MG TABLET Antimuscarinic Urinary Anti Spasmodic	Competitive antagonist of acetylcholine at postganglionic muscarinic receptors which causes a relaxation of bladder smooth muscle.	**Adult:** 5 mg BD/TDS, max 5mg QID **Paeds >5y.o:** 2.5- 5 mg 8-12H **Elderly**: Initial dose 2.5-3 mg BD, up to 5mg BD	**Pregnancy and Lactation** B, infant risk could not be ruled out **Prescriber category** A* **Side Effect** Constipation, dizziness, blurred vision, dry mouth
PROPIVERINE HCI 15MG TABLET Antimuscarinic Urinary Anti Spasmodic		**Adult:** 15mg BD to QID, max dose is 60mg/day **Paeds >5y.o:** 0.2– 0.4 mg/kg per day in 2 divided dose	**Pregnancy and Lactation** C, infant risk could not be ruled out **Prescriber category** A* **Side Effect** Constipation, dizziness, blurred vision, dry mouth
SOLIFENACIN SUCCINATE 5MG TABLET Antimuscarinic Urinary Anti Spasmodic		**Adult:** Initially 5 mg OD, titrated up to 10 mg/day if well tolerated **Paeds:** Safety and efficacy have not been established	**Pregnancy and Lactation** C, infant risk could not be ruled out **Prescriber category** A* **Side effects** Constipation, dizziness, blurred vision
TROSPIUM CHLORIDE 20MG COATED TABLET Antimuscarinic Urinary Anti Spasmodic		**Adult:** 20 mg BD with water on an empty stomach, at least 1 hour before a meal **Paeds:** Safety and efficacy have not been established	**Pregnancy and Lactation** C, infant risk could not be ruled out **Prescriber category** A* **Side Effects** Constipation, dry mouth
TOLTERODINE TARTRATE ER 4MG Antimuscarinic Urinary Anti Spasmodic		**Adult:** Initial, 4 mg orally OD; may lower dose to 2 mg OD depending on tolerability and response. **Paeds:** Safety and efficacy have not been established	**Pregnancy and Lactation** C, infant risk could not be ruled out **Prescriber category** A* **Side Effects** Constipation, dry mouth, QT prolongation

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- Retrieved from https://emedicine.medscape.com/article/459340-treatment#d10
- Borello-France D, Burgio KL, Goode PS, et al. Urinary incontinence treatment: Adherence to behavioural interventions for urge incontinence when combined with drug therapy: Adherence rates, barriers, and predictors. Physical Therapy. 2010;90:1493–1505.
- Gormley EA, Lightner DJ, Burgio KL, et al. Diagnosis and treatment of overactive bladder (non-neurogenic) in adults: AUA/SUFU guideline 2014
- Haylen BT, de Ridder D, Freeman RM, et al., International Urogynecological Association; International Continence Society. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction. Neurourol Urodyn 2010;29:4–20
- Andersson, K. E., Chapple, C. R., Cardozo, L., Cruz, F., Hashim, H., Michel, M. C., ... & Wein, A. J. (2009). Pharmacological treatment of overactive bladder: report from the International Consultation on Incontinence. *Current opinion in urology*, *19*(4), 380-394.
- Burkhard FC, Lucas MG, Berghmans LC, et al. Urinary Incontinence in Adults. EAU Guidelines.2016.

LEPROSY (HANSEN'S DISEASE)

Prepared by: THAM SHUNI

What is Leprosy?

Leprosy is a chronic infectious disease caused by slow-growing bacteria called *Mycobacterium leprae*. This bacteria multiplies slowly and the incubation of the disease is 5 years on average. Symptoms may occur within 1 year but can also take as long as 20 years.

Leprosy mainly affects the skin, mucosal surfaces of the upper respiratory tract, peripheral nerves and the eyes. The disease occurs at all ages ranging from early infancy to very old age. If left untreated, the nerve damage caused by the bacteria can result in paralysis of hands and feet or even blindness. With early diagnosis and treatment, the disease can be cured and most disability can be prevented.

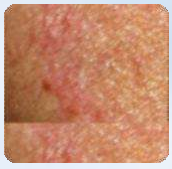
CLASSIFICATION

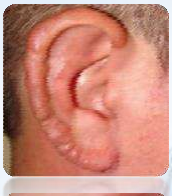
Paucibacillary (PB)
1 to 5 skin lesions

Multibacillary (MB)
more than 5 skin lesions

Transmission

The exact mechanism of transmission of leprosy is unknown. However, it was widely believed that leprosy was transmitted by prolonged and close contact with untreated leprosy patients, most likely, via droplets from the nose and mouth.





Signs and Symptoms

Symptoms mainly affect the skin, nerves, and mucous membranes

Skin	Nerves	Mucous Membrane
Discoloration	Numbness	Stuffy nose
Nodules on the skin	Muscle weakness or paralysis	Nosebleed
Thick, stiff or dry skin	Enlarged nerves	Sadle-nose deformity
Painless ulcers on the soles of feet	Eye problems that may lead to corneal ulcer or blindness	
Painless swelling/lumps on the face or earlobes	Apparent loss of toes & fingers	
Loss of eyebrows or eyelashes	Crippling of hands & feet	

Treatment: Multidrug Therapy (MDT)

Leprosy is curable with a combination of drugs known as multidrug therapy (MDT), as the treatment with monotherapy will result in development of drug resistance.

	Adult		Children			
			10-14 years old		< 10 years old	
	PB	MB	PB	MB	PB	MB
Rifampicin	600mg PO monthly		450mg PO monthly		10mg/kg PO monthly	
Dapsone	100mg PO daily		50mg PO daily		2mg/kg PO daily	
Clofazimine	-	50-100mg daily + 300mg PO monthly	-	150mg EOD + 50mg PO monthly	-	1mg/kg PO EOD + 6mg/kg PO monthly

Total duration

**BI : bacteriological index*

Paucibacillary (PB): 6 months

Multibacillary (MB): 1 year (if initial BI <4), 2 years (if BI ≥4)

Rifampicin

A bactericidal antibiotic that has broad antibacterial spectrum including activity against several forms of *Mycobacterium*. It inhibits DNA-dependent RNA polymerase activity by forming a stable complex with the enzyme, thus suppresses the initiation of the bacterial RNA synthesis.

Dapsone

A sulfone active against a wide range of bacteria but mainly against *Mycobacterium leprae*. It interrupts with the folate metabolism through competition with para-amino-benzoate for the active site of dihydropteroate synthetase. Decrease in folic acid level causes decrease in production of mycolic acid which is an important component of the cell wall.

Clofazimine

A fat-soluble riminophenazine dye that exerts a slow bactericidal effect on *Mycobacterium leprae*. It binds to mycobacterial DNA and inhibits the mycobacterial DNA synthesis, leading to disruption of the cell cycle and eventually kills the bacterium.

References

- Centers for Disease Control and Prevention. (2017). *Hansen's Disease (Leprosy) | CDC.* [online] Available at: https://www.cdc.gov/leprosy/index.html
- World Health Organization. (2019). *Treatment*. [online] Available at: https://www.who.int/lep/disease/treatment/en/
- National Antimicrobial Guideline. (2019). Ministry of Health Malaysia.

DEXAMETHASONE INTRAVITREAL IMPLANT (OZURDEX)

A. DESCRIPTION

OZURDEX® is an intravitreal implant containing 0.7 mg (700 mcg) dexamethasone in the NOVADUR® solid polymer sustained-release drug delivery system. OZURDEX® is preloaded into a single-use, DDS® applicator to facilitate injection of the rod-shaped implant directly into the vitreous. The NOVADUR® system contains poly (D,L-lactide-co-glycolide) PLGA intravitreal polymer matrix without a preservative. It is a tiny implant that slowly releases corticosteroid medication over time, without the need for monthly injections. It will dissolve naturally and will not need to be removed .

B. REGISTRATION NO.

MAL12115071AZ

C. PRICE

RM 1880.00

D. DEPARTMENT

OPTHALMOLOGY

E. PRESCRIBER CATEGORY

A*
(Consultant/ Specialists for specific indications only)

F. PREGNANCY CATEGORY

CATEGORY C

G. MECHANISM OF ACTION

Dexamethasone is a glucocorticoid agonist. Unbound dexamethasone crosses cell membrane and binds with high affinity to specific cytoplasmic glucocorticoid receptors. This complex binds to DNA elements (glucocorticoids response elements) which results in a modification of transcription and hence, protein synthesis in order to achieve inhibition of leukocyte infiltration at the site of inflammation, interference in the function of mediators of inflammatory response, suppression of humoral immune responses and reduction in edema or scar tissue. To sum up, it has been shown to suppress inflammation by inhibiting multiple inflammatory cytokines resulting in decreased edema, fibrin deposition, capillary leakage and migration of inflammatory cells.

H. INDICATION IN FUKKM

Treatment of adult parents with visual impairment due to diabetic macular edema (DME) who are pseudophakic.

I. DOSE AND ADMINISTRATION

- The recommended dose is one dexamethasone intravitreal implant to be administered to the affected eye.
  Administration to both eyes concurrently is not recommended.
- Retreatment may be performed after approximately 6 months if the patient experiences decreased vision and/or an increase in retinal thickness, secondary to recurrent or worsening diabetic macular edema.
- There is currently no experience of the efficacy or safety of repeat administrations in DME beyond 7 implants.

J. ADVERSE REACTIONS

Common

Cardiovascular

- Hypertension (diabetic macular edema, 13%)

Endocrine metabolic

- Cushing's syndrome, decreased body growth

Opthalmic

- Cataract (Diabetic macular edema, 68%; retinal vein occlusion and uveitis, 5% to 54%),
- Discomfort eye (10%),
- Disorder of anterior chamber of eye, inflammation (9%), iridocyclitis, iritis (5% to 15%),
- Raised intraocular pressure (retinal vein occlusion and uveitis, 24% to 25%)

Respiratory

- Pulmonary tuberculosis

Serious

Cardiovascular

- Cardiomyopathy

Endocrine metabolic

- Hyperglycemia (new onset diabetes mellitus, less than 1% to 46%)

Opthalmic

- Conjunctival hemorrhage (diabetic macular edema, 23%; retinal vein occlusion and uveitis, 22%),
- Glaucoma (diabetic macular edema, 1.2%), Keratitis (2%), posterior subcapsular cataract, retinal tear (2%), retinal vascular disorder (3%)

K. WARNING AND PRECAUTIONS

Steroid-related Effects

- Produce posterior subcapsular cataract
- Glaucoma
- Establishment of eye infections due to fungi, bacteria and viruses.

Intravitreal Injection-related Effects

- Serious eye infection (Endophthalmitis)
- Eye inflammation
- Increase eye pressure
- Retinal detachments

When to Seek Physician Advice

- If the eye becomes red, sensitive to light, painful, or develops a change in vision

Driving and Using Machines

- May experience temporary visual blurring after receiving an intravitreal injection.
- Advise patients not to drive or use machines until

L. CONTRAINDICATIONS

- Ocular and periocular infection including most viral of cornea conjunctiva.
- Glaucoma that has progressed to a clip-to-disc ratio of greater than
- Torn or ruptured posterior lens capsule.
- Hypersensitivity to any of its ingredients.

M. USE IN SPECIFIC POPULATIONS

- **Pregnancy:** There are no adequate and well-controlled studies with OZURDEX® in pregnant women.
- **Lactation:** Systemically administered corticosteroids are present in human milk and can suppress growth and interfere with endogenous corticosteroid production or cause other unwanted effects. There is no information regarding the presence of dexamethasone in human milk, the effects on the breastfed infants, or the effects on milk production to inform risk of OZURDEX® to an infant during lactation.
- **Pediatric Use**: Safety and effectiveness of OZURDEX in pediatric patients have not been established.
- **Geriatric Use:** No overall differences in safety or effectiveness have been observed between elderly and younger patients.

N. MONITORING PARAMETERS

Following injection, monitor for increased intraocular pressure and endophthalmitis; check for perfusion of optic nerve head immediately after injection, tonometry within 30 minutes, biomicroscopy between 2 to 7 days after injection.

O. STORAGE

Store at 15-30 ˚C

P. REFERENCES

Product leaflet ,FUKKM , Micromedex, Mimsgateway, NPRA

By Siti Nurnabiha bte Mohd Alias

DRUG UPDATES: T. APIXABAN 5MG

A) Drug Description:

5mg, pink, oval-shaped, bi-convex, film coated tablets

B) Class:

Anticoagulant (Factor Xa inhibitor)

C) Registration No. :

MAL31085063ARZ

D) Price:

RM 65.10/box

E) Department:

Cardiology

F) Prescriber Category:

A* (Consultant/Specialists for specific indication only)

G) Mechanism of action:

Apixaban is a highly selective, orally bioavailable inhibits thrombin production, conversion of fibrinogen to fibrin and thrombus formation via selective and reversible inhibition of factor Xa (FXa), a part of the promthrombinase complex which catalyses the conversion of prothrombin to thrombin.

H) Indication in FUKKM:

Prevention of stroke and systemic embolism in adult patients with non-valvular atrial fibrillation (NVAF), with one or more risk factors, such as prior stroke or transient ischaemic attack (TIA); age ≥75 years; hypertension; DM; symptomatic heart failure (NYHA Class ≥ II).

Restriction: only for renal patients.

I) Dose in FUKKM:

i) 5mg taken orally BD.

ii) Dose reduction: 2.5mg taken orally BD in NVAF patients with at least two of the following characteristics: age ≥ 80 years old, body weight ≤ 60kg, or serum creatinine ≥ 1.5mg/dL (133 µmol/L)

J) Administration:

Oral	Nasogastric Tube
- swallow whole tablets or - 5 mg and 2.5 mg may be crushed and suspended in water, 5% dextrose in water (D5W), or apple juice, or mixed with applesauce and promptly administered orally	- may be crushed and suspended in 60 mL of water or D5W and promptly delivered through a nasogastric tube. The crushed ELIQUIS tablets are stable in water, D5W, apple juice, and applesauce for up to 4 hours.

DRUG UPDATES: T. APIXABAN 5MG

K) Pharmacokinetic:

Bioavailability 50%	Metabolism: 25% recovered in urine and feces. Metabolized mainly via CYP3A4 . O-demethylation and hydroxylation at the 3-oxopiperidinyl moiety are the major sites of biotransformation. Unchanged apixaban is the major drug-related component in human plasma (no active circulating metabolites)	Elimination: Renal excretion about 27% of total clearance. Biliary and direct intestinal excretion contributes to elimination in the feces.
Protein Binding 87%		

L) Adverse Drug Reactions:

i) Significant: thromboembolic events (premature discontinuation), bleeding, spinal or epidural hematoma resulting to long term or permanent paralysis.

ii) Blood & lymphatic system disorders: anaemia, thrombocytopenia

iii) Gastrointestinal disorders: nausea, mouth or gingival haemorrhage, GI and rectal haemorrhage

iv) Injury, poisoning and procedural complications : contusion

v) Reproductive system and breast disorders: vaginal and urogenital haemorrhage

vi) vascular disorders: epistaxis, hematoma

M) Contraindications:

Active pathological bleeding, hepatic disease associated with coagulopathy & clinically relevant bleeding risks, conditions or lesions with significant risk for major bleeding. Concomitant use with parenteral anticoagulants except when given to maintain an open central venous or aterial catheter, or during catheter ablation, oral anticoagulant except when switching to oral anti-coagulant theraphy.

O) Monitoring parameters:

CBC, aPTT, PT, SCr, LFT prior initiation or clinically indicated, and at least annually thereafter. Signs & symptoms of bleeding or anaemia.

P) Storage:

Store at room temperature (20°C-25°)

N) Use in specific Population:

Lactation: not recommended

Pregnancy: US FDA (B)

Paediatric: not established

Renal impairment: 2.5mg BD (refer I (ii))

Hepatic impairment: no adjustment in mild (Child Pugh Score A), not recommended in severe (Child Pugh Score C)

Q) References:

Product leaflet, Micromedex, FUKKM, Mimsgateway, NPRA

Prepared By:

Nur Syazwanie Bt Ahmad Hassan Basri

Title: Inpatient Anticoagulation Service: The Next Frontier in Anticoagulant Therapy

Author: Chua PW1, Mohamed S1, Chandrasakaranpillay D2, Kori AN2

1Department of Pharmacy, Hospital Tengku Ampuan Afzan, Kuantan.

2Department of Medicine, Hospital Tengku Ampuan Afzan, Kuantan.

Background: Anticoagulants are extensively used for the prevention and treatment of venous and arterial thrombosis (VTE) and they are high-risk medications associated with a significant rate of medication errors among hospitalized patients. The pharmacy department in collaboration with Medical Department in Hospital Tengku Ampuan Afzan (HTAA) is seeking to expand anticoagulation services by implementing an Inpatient anticoagulant service (IPACs) providing daily surveillance and dosing consultation for patients receiving anticoagulant.

Objectives: To identifying the referral reasons to IPACs, percentage of patient with acute VTE received VTE prophylaxis and describing the issues identified by the IPACs in the management of anticoagulant therapy (ACT).

Method: A cross sectional, descriptive study conducted in HTAA. All adult patients who referred to IPACs team were recruited.

Results: Of 157 patients seen by IPACs team, 54% are newly started on ACT, 20% are referred for anticoagulant reversal, 8% for bridging therapy, 10% switching of anticoagulant, and 9% for warfarin titration.. Nearly 60% patients (n=81) referred for acute VTE with 85% had high risk but only 33% received VTE prophylaxis. Inappropriate dose of IV vitamin K and underutilisation of prothrombin complex concentrate for overwarfarinization as well as doing daily INR leading to improper titration of warfarin were the most problems seen in IPACs.

Conclusion: With the clinical experience of IPACs, we create the awareness of VTE prophylaxis and address the issues that related to ACT. IPACs appears to enhance quality of patient care in anticoagulant management. Further research will be conducted in future to determine the impact IPACs.

Title: Evaluation Of Optimal Initiation Warfarin Dose In Newly Treated Patient With Atrial Fibrillation In HTAA

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Background: Warfarin therapy (WT) is usually initiated with a loading dose to reduce the time required to achieve the patient specific targeted international normalized ratio (INR). Selection of optimal warfarin initiation dose is challenging and influenced by many factors. These include differing underlying sensitivity for warfarin, differences in vitamin K status, concomitant medications and disease states.

Objective: To determine the effectiveness of different initiation-doses regimens (IDR) of WT in terms of time to achieve INR in-range, days and dose to achieve INR target and factors that affect INR level.

Method: A prospective study was conducted in W-MTAC HTAA from Jan 2017 to Dec 2018. A simple IDR for starting WT in Warfarin Medication Adherence Therapy Clinic (W- MTAC) was developed. The INR was measured on day four and day 30 to check INR level.

Results: A total of 81 warfarin naive patients with Atrial Fibrillation (AF) who had a target INR of 2.0-3.0 were recruited. The mean baseline INR was 1.13, majority (82%) were Malays and 59% were female patients. Of 6 IDR, nearly 50% (n=39) of the patients received IDR of 5/5/3mg and 35% (n=28) with IDR of 5/3/3mg. The mean days to achieve INR target was 19 days with mean dose of 26mg weekly. INR target had been achieved by 19 patients on day 4. Overall, 64% (n=52) patients achieved target INR within one month. Unknown factor were found significantly affect INR level.

Conclusion: The most common IDR for starting WT in AF was 5/5/3 mg. The best time to achieved INR target was within 19 days with dose of 26mg weekly. Further studies with larger sample size were needed to confirm this finding.

Title: Experiences, Knowledge And Management Of Side Effects Of Chemotherapy Among Cancer Patients In Hospital Tengku Ampuan Afzan, Htaa (Kuantan)

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Background : This study aimed to assess the most common side effects experienced by chemotherapy patients in HTAA, Kuantan.

Objectives: The general objective for this research is to assess the common side-effects experienced by chemotherapy patients in HTAA, Kuantan. Meanwhile the specific objectives were to investigate the experiences of cancer patients towards chemotherapy side effects, to evaluate their knowledge about chemotherapy and pre medication for chemotherapy, to assess the patient's management related to their side effects and to find association between patient's characteristics and side effects they were worried about. The collected data were analyzed using SPSS version 21.0. Categorical data was described as frequencies and percentages, whereas associations of two categorical variables were tested using the Pearson's chi-square.

Method: This is a single-center, cross-sectional study. Data were collected based on validated structured questionnaire with cancer patients admitted to receive repeated cycles of chemotherapy. Forward and backward translation was done by 5 healthcare professionals and 3 non healthcare professionals who were proficient in both languages. It was also piloted with 10 patients prior to data collection to makesure that they were able to interpret and answer all the questions. The study was conducted around 10 months in Hospital TengkuAmpuanAfzan, HTAA (Kuantan). Information collected included chemotherapy-related side effects after last chemotherapy experience, the most worrisome side effects, the side effects overlooked by healthcare professionals and the preferred method. The sampling method is convenience sampling. The cancer patients were selected according to inclusion criteria and exclusion criteria.

Results: 109 participated in this survey. The majority were in the age range of 31-40 years (43.1%) and female (67.0%). 71.6% and 61.5% experienced nausea and vomiting, respectively. The most worrisome side effect was alopecia (33.0%). Other common and worrisome side effects were dry mouth and tiredness. The majority of patients (59.6%) responded that they had a good understanding of the chemotherapy regimen they were receiving, but only (33.9%) of patients were able to list the specific chemotherapy agents. Similar results were seenfrom patients regarding their understanding of pre medications. Majority of patients (66.0%) preferred to receive information about chemotherapy and the side effects from oncologist. There were no significant differences between patients' characteristics and the most worried side effects.

Conclusion : The results of this study will help increase the awareness of the gaps that exist in patients' knowledge and management of chemotherapy-related adverse effects. The results also highlight opportunities for oncology pharmacists to provide patient education as well as on-going monitoring and management of adverse effects.

1st EAST COAST RESEARCH DAY

Tarikh : 9-10 Oktober 2019
Tempat : Taman Tamadun Islam
Convention Center,
Kuala Terengganu

Encik Arif memenangi tempat pertama bagi *full research poster presentation*.

Encik Nasri membentangkan *poster case report*.

Miss Woarn Tong memenangi hadiah saguhati bagi *oral research presentation*.

Program Safety Crush

Tarikh : 4 September 2019

Tempat : Bilik Mesyuarat Nilam, Bangunan ACC, HTAA

Penganjur : Jawatankuasa Medication Safety Action Team (MeSAT)

Objektif : Memberikan pendedahan mengenai kesilapan pengubatan yang mungkin berlaku semasa rutin kerja seharian

Para peserta tekun menjawab soalan yang diberikan

Kursus Medication Safety

Tarikh : 7 September 2019 (Peringkat Jabatan Farmasi)
: 30 September 2019 (Peringkat HTAA)

Tempat : Bilik Mesyuarat Nilam, Bangunan ACC, HTAA

Penganjur : Jawatankuasa Medication Safety Action Team (MeSAT)

Objektif : Mendedahkan konsep keselamatan pengubatan di setiap peringkat pengurusan pengubatan

Para peserta sedang mendengar taklimat perkongsian daripada penceramah

PHARMACY ECHO TRAINING BIL. 2/2019

Tarikh : 19 Oktober 2019

Tempat : Bilik Mesyuarat Nilam 1, Bangunan ACC, HTAA

Penceramah jemputan sedang menyampaikan taklimat kepada para peserta

PharmCare AGM and Pharmnight

Tarikh : 30 November 2019
Tempat : Hotel Grand Darul Makmur , Kuantan

Penganjur : PharmCare HTAA

Ucapan perasmian disampaikan oleh Puan Hajah Samehah.

Persembahan tarian sebagai acara pembukaan.

Pelbagai hadiah disediakan untuk acara cabutan bertuah.

Aneka juadah yang lazat disediakan.