PHARMACY BULLETIN HOSPITAL KUALA KUBU BHARU

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FOR HEALTHCARE PROFESIONAL ONLY

What's inside this issue:

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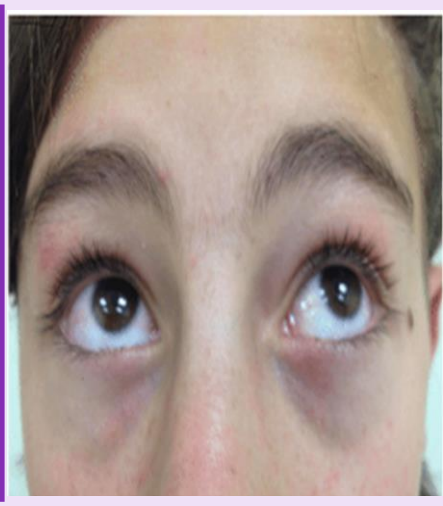
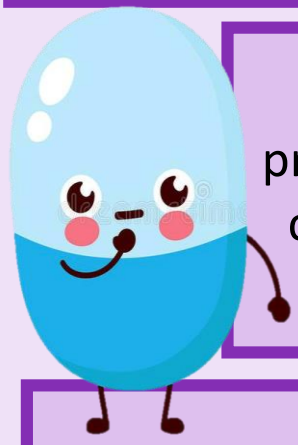
METOCLOPRAMIDE: RISK OF OCULOGYRIC CRISIS

Prepared by: Siti Nadirah Mohamad Yusoff

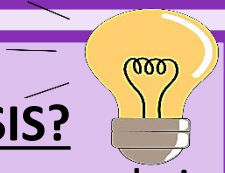
WHAT IS OCULOGYRIC CRISIS?

Oculogyric crisis is uncontrolled ocular muscles characterised by marked involuntary deviation of the eyes. The eyes usually inadvertently move upward and to the left or right, and it can change position from crisis to crisis.





Metoclopramide is generally indicated for the prevention of nausea and vomiting associated with chemotherapy or radiotherapy and symptomatic treatment of nausea and vomiting in adults.



HOW METOCLOPRAMIDE CAUSE OCULOGYRIC CRISIS?

Metoclopramide crosses the blood brain barrier and is associated with serious neurological adverse event mainly oculogyric crisis. This reaction frequently occur at high doses of metoclopramide. It is one of the acute dystonic reactions that cocurs due to alteration of dopaminergic-cholinergic balance in the nigrostriatum which results in an excess of striatal cholinergic output. The figure below shows metoclopramide-induced oculogyric crisis.

ADVERSE DRUG REACTION (ADR) REPORTS

Since the last safety issue notification in 2015, the NPRA has received 897 reports with 1,591 adverse events suspected to be related to metoclopramide. The total number of neurologic adverse events reported is 361, with the most reported being oculogyric crisis (241, 66.7%). There was one (1) report of oculogyric crisis received involving a six (6) months old infant.

AUGUST 2015

MADRAC

Malaysian Adverse Drug Reactions Newsletter
National Pharmaceutical Control Bureau, Ministry of Health Malaysia

SAFETY ISSUES OF CURRENT INTEREST

NEW RESTRICTIONS OF USE FOR METOCLOPRAMIDE AND DOMPERIDONE

by Vidhya Hariraj and Rema Panickar

Drug Control Authority (DCA) had issued restrictions include a new **CONTRAINDICATION** of metoclopramide use in patients aged **below one year old**, and limitation of usage in patients aged **between 1-18 years** old as a **second-line** for the prevention of delayed chemotherapy-induced and post-operative nausea and vomiting.

TREATMENT OF IS OCULOGYRIC CRISIS

Primarily anti-cholinergics such as trihexyphenidyl, benztropine, benzhexol, biperiden, procyclidine or other centrally acting cholinergic drugs are commonly used. In cases of acute dystonic reactions, the intravenous route is the preferred route of choice as it leads to improvement within 10 minutes. Alternatively, intramuscular (if cannot access intravenous line) or oral (most unreliable, due to extensive gut first-pass metabolism) route can be used.

TREATMENT AVAILABLE IN HKKB

Drugs	Dosing
Procyclidine HCL 5mg/ml injection	IV emergency: 5-10mg IM emergency: 5-10mg as a single dose, may repeat after 20 mins if needed. Max: 20mg/day

RERERENCES

1. Koban Y, Ekinci M, Cagatay H, Yazar Z. Oculogyric crisis in a patient taking metoclopramide. Clinical Ophthalmology. 2014;:567
2. Formulari Ubat KKM
3. NPRA, Reminder on the risk of oculogyric crisis with Metoclopramide use, 2020

ANTIVENOM : ARE YOU AWARE??

Prepared by: Dipisha a/p Babu

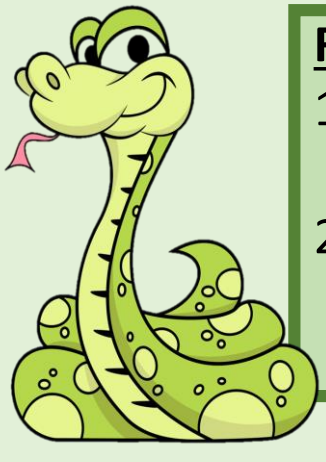
WHAT IS ANTIVENOM?

Immunoglobulin molecules typically derived from the plasma of animal which has been immunised with venom.

TYPES OF SNAKE VENOM

(Based on the predominant clinical effect of a venom)

1. **Hemotoxic venom** - This type of venom destroys FBC, cause haemolysis & disrupts blood clotting.
2. **Neurotoxic venom** - mainly cause muscular paralysis and respiratory failure.



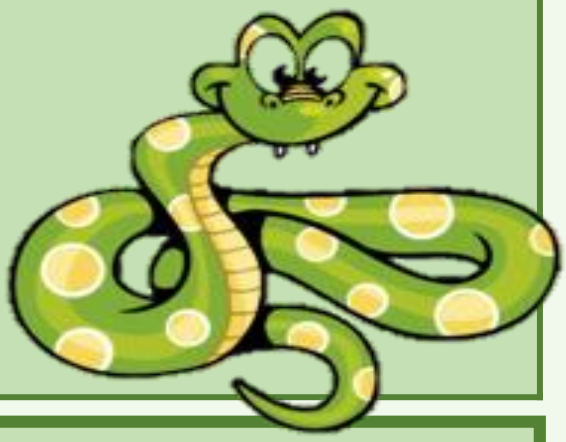
REGION OF ANTIVENOM PRODUCED

1. Thai Red Cross Society, Queen Saovhaba Memorial Institute (QSMI), Bangkok.
2. Indian Polyvalent antivenom use is NOT recommended in Malaysia.

INDICATION FOR ANTIVENOM?

Antivenom treatment is recommended if patient with proven/ suspected snake bite develop one/ more of the following signs & based on clinical judgement:

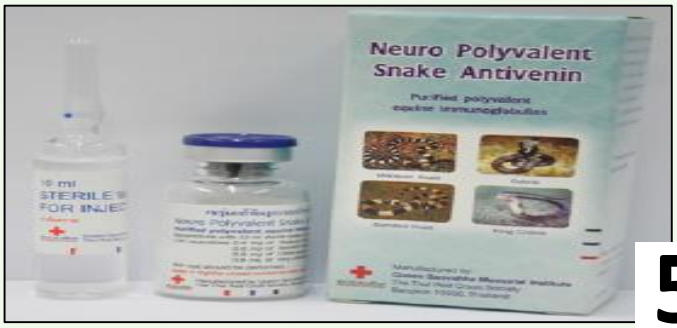
Systemic Envenoming	Local Envenoming
• Hemostatic abnormalities • Cardiovascular abnormalities • Neurotoxic signs • Acute kidney injury (renal failure) • Haemoglobin -/myoglobinuria • Supporting laboratories evidence of systemic envenoming	• Local swelling • Rapid extension of swelling • Enlarged tender lymph node draining the bitten limb.

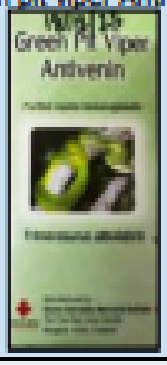
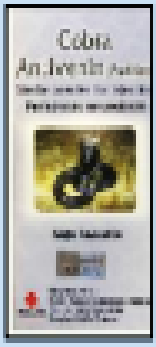


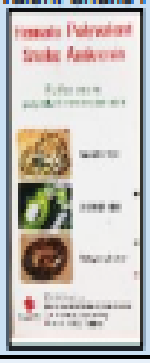
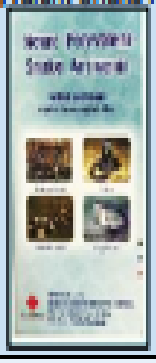
TYPES OF ANTIVENOM IN HKKB PHARMACY DEPARTMENT

MONOVALENT ANTIVENOM

POLYVALENT ANTIVENOM

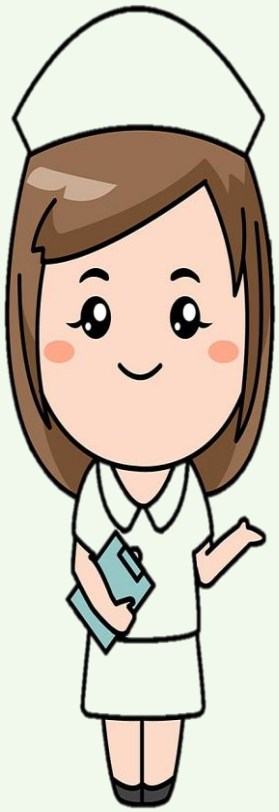


TYPES OF ANTIVENOM [1,2]	Monovalent Antivenom	
	Neutralizes the venom of only one species of snake	
PRESENTATION	Green pit viper Antivenin 	Cobra Antivenin 
SNAKE SPECIES & INITIAL DOSE [2,3] (both paediatric & adult dosing)	Leaf nose palm pit viper (*Trimeresurus wiroti*) 3 vials Sumatran pit viper *Trimeresurus (Parias) sumatranus* 3 vials Mountain pit viper *(Ovophis convictus)* 3 vials Hagens green pit viper *Trimeresurus (Parias) hageni* 3 vials White lipped green pit viper *Trimeresurus (Cryptelytrops) albolabris* 3 vials Mangrove pit viper *Trimeresurus (Cryptelytrops) purpureomaculatus* 3 vials Thai peninsula pit viper *Trimeresurus (Popeia) fucata* 3 vials Tioman island pit viper *Trimeresurus (Popeia) buniana* 3 vials Cameron pit viper *Trimeresurus (Popeia) nebularis* 3 vials	Monocled cobra *Naja kaouthia* (Ular senduk) Local: 5 - 10 vials Systemic: 10 vials Equatorial spitting cobra *Naja sumatrana* (Ular senduk sembur) Local: 5 - 10 vials Systemic: 10 vials
SUBSEQUENT DOSE [2,3]	6 hours	1 - 2 hours
Availability in Selayang Hospital	No	Yes
Availability in Kuala Kubu Bharu Hospital	Yes	Yes

TYPES OF ANTIVENOM [1,2]	Polyvalent Antivenom	
	Neutralizes the venom of several different species of snakes	
PRESENTATION	Hemato Polyvalent Snake Antiverin 	Neuro Polyvalent Snake Antiverin 
SNAKE SPECIES & INITIAL DOSE [2,3] (both paediatric & adult dosing)	Malayan pit viper *Calloselasma rhodostoma* (Ular kapak bodoh) 4 vials Green pit viper *Trimersurus albolabris* (Ular viper pohon hijau) 3 vials Sumatran pit viper *Trimeresurus (Parias) Sumatranus* 3 vials Wagler's pit viper, Temple pit viper *Tropidolamus wagleri* (Ular kapak tokong) no antivenom available, usually not indicated	Malayan krait *Bungarus candidus* 5 vials Banded krait *Bungarus fasciatus* (Ular katang tebu) 5 vials Monocled cobra *Naja kaouthia* (Ular senduk) Local: 5 - 10 vials Systemic: 10 vials King cobra *Ophiophagus hannah* (Ular tedung selar) 10 vials Equatorial spitting cobra *Naja sumatrana* (Ular senduk sembur) Local: 5 - 10 vials Systemic: 10 vials
SUBSEQUENT DOSE [2,3]	6 hours	1 - 2 hours
Availability in Selayang Hospital	Yes	Yes
Availability in Kuala Kubu Bharu Hospital	Yes	Yes

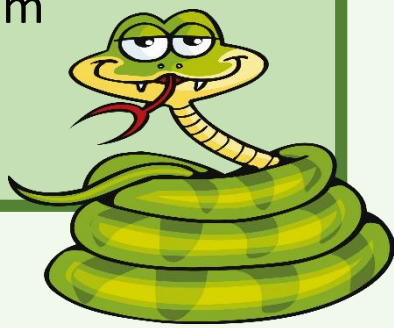
ADMINISTRATION OF ANTIVENOM

1. Reconstitute freeze-dried antivenom with the solution supplied or 10ml WFI. Gently swirl to dissolve the freeze-dried antivenom. DO NOT SHAKE!!
2. Reconstituted solution is further diluted with: **Children**: 5-10ml/kg NS/D5% / **Adult**: 250-500ml NS/D5% (1/2 - 1 pint)
3. SLOW IV INFUSION Test dose: 1-2 ml / min over 10-15 min If no reaction: increase to 5-10ml/min to complete within a period of one hour or earlier.
4. Monitor patient during & for at least one hour after completion of intravenous infusion. Monitor for clinical progression and allergic reaction.



CAUTION

1. Patient must be monitored during and for at least one hour AFTER completion of intravenous infusion. Serially chart vital signs and clinical progression.
2. If there is no improvement after 1st dose, a repeat dose is given. Failure to respond could be due to:
    - Wrong Antivenom
    - Insufficient Antivenom
    - Inactive Antivenom
    - Excessive delay



REFERENCES:

1. WHO Guidelines for Management of Snakebites, 2nd Edition.
2. Malaysia Management of Snake BiteGuidelines 2017.
3. Ismail, Ahmad Khaldun (2015). Snakebite and Envenomation Management in Malaysia.
4. Dilution Protocol BPF JKNS 1st Edition, 2017 .

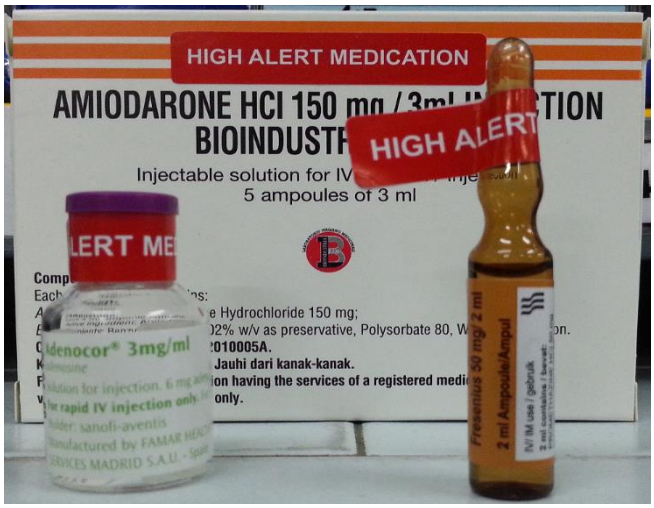
MEDICATION SAFETY HOSPITAL KUALA KUBU BHARU

HIGH ALERT MEDICATION (HAM)

Prepared by: Nurzafirah binti Mustapha Kamal

WHAT IS HIGH ALERT MEDICATION??

High alert medications (HAMs) are defined as medications that bear a heightened risk of causing significant patient harm when these medications are used in error



HAM must be double checked before they are prepared, dispensed and administered to the patients.

A
Adenosine 6mg/2ml Inj.
Adrenaline 1mg/ml Inj.
Amiodarone 150mg/3ml Inj.
Antivenom Cobra Inj.
Antivenom Neuro Polyvalent Snake Inj.
Antivenom Hemato Polyvalent Snake Inj.
C
Chloral Hydrate Sodium 500mg/5ml Syp.
D
Dabigatran Etexilate 110mg Capsule
Dabigatran Etexilate 150mg Capsule
Dextrose Anhydrous 50% w/v Inj.
Diazepam 10mg/2ml Inj.
Digoxin 0.5mg/2ml Inj.
Dobutamine 250mg/20ml Inj.
Dopamine 40mg Inj.
Diazepam 5mg Rectal Solution
E
Enoxaparin 60mg/0.6ml Inj.
Enoxaparin 40mg/0.4ml Inj.
F
Fondaparinux 2.5mg/0.5mg Inj.
Fentanyl 0.1mg/2ml Inj.
G
Glyceryl Trinitrate 50mg/10ml Inj.
Gentamicin 80mg/2ml Inj.
H
Heparin 5000iu/ml Inj.
I
Insulin Recombinant Synthetic Human, Intermediate-Acting 100iu/ml
Insulin Recombinant Neutral Human, Short Acting 100iu/ml

THIS LIST OF HAM HAS BEEN UPDATED IN 2023 AND DISTRIBUTED THROUGHOUT ALL UNITS IN HKKB.

K
Ketamine 10mg/ml Inj.
L
Labetalol 25mg/5ml Inj.
Lignocaine 2% 100mg/5ml (IV) Inj.
Lignocaine 2%, 10ml (LA) Inj.
M
Magnesium Sulphate 2.47g/5ml Inj.
Midazolam 5mg/ml Inj.
Midazolam 15mg/3ml Inj.
Morphine Sulphate 10mg/ml Inj.
N
Noradrenaline 4mg/4ml Inj.
Nalbuphine 10mg/ml Inj.
O
Oxytocin 10iu / ml Inj.
Oxytocin 5iu and Ergometrine 0.5mg Inj.
P
Pethidine 100mg/2ml Inj.
Potassium Chloride 10% w/v Inj.
Promethazine 50mg/2ml Inj.
Phytomenadione (Vitamin K) 10mg/ml
Phytomenadione (Vitamin K) 1mg/ml
S
Salbutamol 0.5mg/ml Inj.
Sodium Chloride 3% (drip 500ml) Inj.
Streptokinase 500 000iu / 0.5ml Inj.
Suxamethonium Chloride 100mg/2ml Inj.
V
Verapamil 2.5mg / ml Inj.
W
Warfarin 1mg, 2mg, 5mg Tab.