

Pharmacy Bulletin

Hospital Permai, Johor Bahru

Volume 2/2015

Dec 2015

Highlight : Typhoid Fever

By: Azri

What is Typhoid Fever?

Typhoid fever is caused by a bacterium called Salmonella Typhi and it is a life threatening fever. Typhoid fever can be spread through close contact with someone who is infected with the fever.

The bacterium lives only in humans and it is carried in the bloodstream and the intestine. Although the person has already recovered from the fever (carriers), the person continues to carry the bacteria.

The bacteria then will be spread through their stool (feces). It is also can be spread through food, drink, or water that is contaminated or handled with someone with the bacterium. The bacteria will get into the water that will be used for drinking and washing the food.

Therefore, it is common to see Typhoid fever cases in country that practice bad food hygiene and the water is contaminated.

(WebMD 2015)

Editorial Board Advisor :

- ◆ Noor Ratna Binti Naharuddin

Chief Editors :

- ◆ Vikneswari Subramaniam
- ◆ Hafizah binti Hamidi

Co-Editors :

- ◆ Priyadharshini
- ◆ Yap Nyuk Kar
- ◆ Azri
- ◆ Ng Ee Hon
- ◆ Kavitha

Inside this issue:

Highlight – Thyphoid Fever	1-2
Medication Safety – Rational Use of Antibiotics	3
Your Medicine – Lithium & Methylphenidate	4-5
Adverse Drug Reaction – Paracetamol & Serious Skin Reactions	6
Service in Pharmacy – MTAC Child Psychiatry	7
Counselling – Diabetes & Insulin	8-9
Activity – Kursus Medication Safety	10

Typhoid Fever (cont.)



Typhoid fever is a serious worldwide threat, especially in a developing country like India, Southeast Asia, Africa, South America and many more...

Risk Factors

Typhoid fever is a serious worldwide threat, especially in a developing country like India, Southeast Asia, Africa, South America and many more. As mentioned above, someone has a high chance of getting a typhoid fever if they work in a country where typhoid fever is common, works as a clinical microbiologist that handles Salmonella typhi, close contact with someone who is infected or a carrier, and consuming contaminated food that contains Salmonella typhi.

Exams and Tests

The doctor will do a blood culture for the first week if someone is suspected to have the bacteria. Usually the bacteria will show up in the blood culture. Apart from that, someone with Typhoid fever will show a high number of white blood cells in their complete blood count test.

(U.S. National Library of Medicine 2013)

Treatment

Fluid and electrolytes can be given through IV as it will help to prevent dehydration from prolonged fever and diarrhoea. Antibiotics such as Ciprofloxacin or Ceftriaxone can be given but the number of antibacterial resistance are increasing, so the choice of the antibiotic is based on other factors such as geographic region.

(U.S. National Library of Medicine 2013)

Signs and Symptoms

Fever. High fever (39.5 o C) indicate worsening disease, Ill feeling, Abdominal pain, Diarrhoea, Red spots on abdomen and chest, Bloody stools, Chills , Confusion, Attention deficit, Delirium, Fluctuating mood, Hallucination, Nosebleeds, Severe fatigue and Weakness
(U.S. National Library of Medicine 2013 & WHO 2015)

Prevention

Vaccination is recommended if someone is travelling to a place where risk of getting typhoid fever is high. The vaccination will be given a week before travelling or it is given orally in four capsules, with one capsules to be taken every other day.

Apart from that, practicing these simple and easy ways can reduce the risk of getting a Typhoid fever:

- Washing hands with hot, soapy water before eating, before preparing food, and after using the toilet.
- Avoid drinking untreated water. The best option is to drink bottled water or canned water while travelling.
- Avoid raw fruits, vegetables and street vendors as the foods are likely to be contaminated.

(Mayo Clinic 2015)

Medication Safety: The Rational Use of Antibiotics

By: Ng Ee Hon

Pharmacist's Role in Ensuring Rational Use of Antibiotics:

- Prepare, obtain, store, secure, distribute, administer, dispense and dispose of antibiotics
- Provide effective medication therapy management. Pharmacist should do recommendations on choice of drugs, dosage, based on pharmacokinetic/pharmacodynamic of the antibiotic
- Maintain and improve professional performance
- Contribute to improving effectiveness of the health care system and public health

(WHO. 2014)

Doctor's Roles in Ensuring Rational Use of Antibiotics:

- Prescribe appropriate antibiotic for bacterial infections
- Switch to narrow spectrum antibiotic once the organism has been identified.
- Prescribe antibiotic in appropriate dose and duration of time in the treatment of bacterial infection.
- When prescriber prescribe antibiotic, should consider the nature and severity of the infection and the person's immune status, and prescribe antibiotic when benefits are likely to be substantial.

(Aust Prescr 2004)

Public's Role in Ensuring Rational Use of Antibiotics.

- Do not demand that your doctor give you antibiotics for a viral infection. Antibiotics kill bacteria, not viruses.
- Take all of your prescribed antibiotic, even if you start to feel better.
- Do not save some of your antibiotic for the next time you get sick.
- Do not take an antibiotic that has been prescribed for someone else. Do not let anyone take your antibiotic, even if the symptoms are the same.
- Ask your doctor or pharmacist what to do if you should forget or miss a dose.

(The Association for Professionals in Infection Control and Epidemiology (APIC) , 2005)



The RATIONAL USE OF MEDICINES requires that “ patients receive medications appropriate to their clinical needs, in doses that meet their requirements, for an adequate period of time, and the lowest cost to them and their community” (WHO

Your Medicine: Lithium

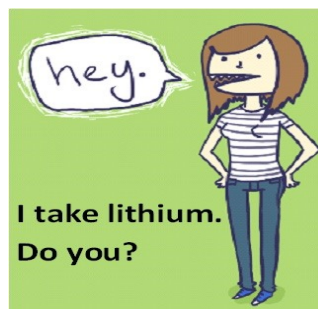
By: Kavitha

What Type of Drug is Lithium?

Lithium is used to treat and prevent episodes of mania in people with bipolar disorder (manic-depressive disorder; a disease that causes episodes of depression, episodes of mania, and other abnormal moods).

Lithium is also sometimes used to treat depression, schizophrenia (a mental illness that causes disturbed or unusual thinking, loss of interest in life, and strong or inappropriate emotions).

Lithium is in a class of medications called Antimanic Agents. .



Side Effects of Lithium

- Restlessness
- fine hand movements that are difficult to control
- mild thirst
- loss of appetite
- stomach pain
- Indigestion
- weight gain or loss
- dry mouth
- excessive saliva in the mouth
- giddiness

Because lithium intoxication may be serious and even life-threatening, blood concentrations of lithium should be measured weekly during the first four weeks of therapy and less often after that.

Patients taking lithium should have their thyroid function monitored and maintain an adequate sodium (salt) and water balance.

Lithium should not be used or used only with very close physician supervision by people with kidney impairment, heart disease, and other conditions that affect sodium balance.

Dosage reduction or complete discontinuation may be necessary during infection, diarrhea, vomiting, or prolonged fast.

Symptoms of Lithium Overdose

- Diarrhea
- Vomiting
- Drowsiness
- muscle weakness
- loss of coordination



Your Medicine: Methylphenidate

Ritalin: 10 Facts
You Didn't Know
About The So-Called
'Smart Drug'



By: Kavitha

What is METHYLPHENIDATE?? How to pronounce it????

Methylphenidate pronounced as (meth" il fen' i date)

This medicine will help to reduce the symptoms of hyperactivity and impulsive behaviour. It will also help to increase attention and concentration span. Methylphenidate is used as part of a comprehensive treatment programme for ADHD.

ADHD?????

Attention deficit hyperactivity disorder (ADHD) is one of the most common childhood disorders and can continue through adolescence and adulthood. Children often become calmer, more organized, and less stubborn.

Are there any possible side-effects?

- Loss of appetite
- Loss weight
- Feel dizzy
- If your child is prone to tics (sudden muscle twitches of the face or body), methylphenidate may make these worse.

When should I give methylphenidate?

METHYLPHENIDATE usually given once each day in the morning. These gradually release the medicine over the day. The medicine will start to work within 30–60 minutes.

- Ritalin, also known as methylphenidate, is a central nervous system stimulant that affects chemicals in the brain and nerves that contribute to hyperactivity and impulse control
- If it is snorted, swallowed in high quantities or injected, the drug can have a similar effect to using cocaine or amphetamines – and can be just as addictive.
- In the United Kingdom, methylphenidate is a controlled 'Class B' substance. Possession without prescription carries with a sentence up to five years and/or an unlimited fine, and supplying it is 14 years and/or an unlimited fine
- Street names for Ritalin include: Kibbles and bits, Kiddy cocaine, Skippy, Smarties, Vitamin R and Pineapple
- The side-effects and misuse of methylphenidate have been associated with an increased risk of aggression, hostile behavior and psychosis
- The effects of long-term treatment on the developing brains of children with ADHD are ongoing, but there is limited data that suggests there are benefits to long-term use

Adverse Drug Reaction Paracetamol & Serious Skin Reactions

PARACETAMOL: Risk of Serious Skin Reactions

The commonly used analgesic/ antipyretic medication, paracetamol (also known as acetaminophen), has been associated with a risk of rare but serious skin reactions, namely Stevens-Johnson syndrome (SJS), toxic epidermal necrolysis (TEN), and acute generalised exanthematous pustulosis (AGEP).

The NPCB performed a review on this matter following a drug safety communication issued by the US FDA regarding this risk. The US FDA review of their adverse event reporting system database revealed 107 reports of serious skin reactions, the majority involving single-active ingredient paracetamol products. In the medical literature, there were three (3) case reports involving positive rechallenge, where the patients had a recurrence of serious skin reactions when given paracetamol again.

Local Scenario

In Malaysia, there are currently 268 products containing paracetamol registered with the DCA, including 65 combination products. In general, products containing paracetamol are approved for the treatment of mild pain or fever. Some combination products are also indicated for the relief of cold and flu symptoms.

From year 2000 to Feb 2015, the NPCB has received 1,018 ADR reports related to paracetamol, with 1,972 adverse events. A total of 790 reports (78%) involved at least one skin reaction, with the most commonly reported ADRs being pruritus, rash, urticaria, and angioedema. There were a total of 30 reports involving serious skin reactions, namely SJS (18 reports), erythema multiforme (5), TEN (4), SJS-TEN overlap (2), and AGEP (1). The time to onset of reaction for these cases ranged from 24 hours (recurrence on second exposure) to several days.

On 3 June 2015, the DCA issued a directive [Bil. (29) dlm. BPFK/PPP/07/25] requiring all product registration holders of paracetamol-containing products to update their local product information (including labels, package inserts, and consumer medication information leaflets – RiMUPs) with a warning on the risk of serious skin reactions.

Advice to Healthcare Professionals

- ◆ Advise patients to stop taking paracetamol and seek medical advice at the first signs of serious skin reactions, including fever, sore throat, skin reddening, eye irritation, blisters or rash.
- ◆ Patients who have experienced a serious skin reaction with paracetamol should be counselled not to take the drug again and must be provided with an allergy card or **medical alert tag**.
- ◆ Please report any suspected ADR related to paracetamol use to the NPCB, including situations where several drugs are given concomitantly.

Service in Pharmacy MTAC Child Psychiatry

By: Yap Nyuk Kar

MTAC Child Psychiatry in Hospital Permai

Medication adherence refers to whether patients continue to take their medications as prescribed. Nowadays, medication non-adherence is a growing concern among healthcare providers because it can be associated with adverse outcomes and higher costs of care.

Therefore, child clinic is now part of the Medication Therapy Adherence Clinic (MTAC) services provided by the Pharmacy Services Division, Ministry of Malaysia to counsel patient as well as carer on the medical condition, medication, medication compliance and medication side effects.

MTAC child psychiatry in hospital permai is now officially conducted by pharmacists in collaboration with psychiatrist and other health professional on every Tuesday and Thursday at the child clinic.



The objectives of MTAC Child Psychiatric includes:

- ◆ To maximise the benefits of medication therapy in children with ADHD
- ◆ To educate patients and carers about ADHD and ASD
- ◆ To make sure patient and carer understanding on the direction of use for the medication.
- ◆ Provide a cost effective maintenance of treatment for ADHD and ASD

ADHD & ASD

Attention deficit hyperactivity disorder (ADHD) is a childhood disorder that may continue through adolescence and adulthood. Symptoms of ADHD include;

- ◆ Difficult to pay attention
- ◆ Difficult in controlling behaviour
- ◆ Hyperactive

ADHD is common for children who age 6 to 12 years. On the other hand, Autism spectrum disorder (ASD) is a neurodevelopment disorder that characterized by repetitive pattern of behaviour and social difficulties. These symptoms affecting daily functioning include;

- ◆ Overly focused on certain objects
- ◆ Poor eye contact
- ◆ Failure to engage with others

Both ADHD and ASD are the medical conditions assessed in child clinic Hospital Permai.

By: Priyadarshini

What is Diabetes?

Diabetes, often referred as **diabetes mellitus**, describes a group of metabolic diseases in which the person has high blood glucose (blood sugar).

It occurs when insulin production is inadequate, or because the body's cells do not respond properly to insulin, or both, falls as the sugar passes into the cells.

Symptoms of Diabetes Mellitus



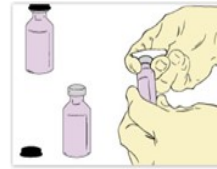
Hypoglycemia

Occurs when glucose level in blood falls below 3.5 mmol/L. It will happen if the patient did not take a meal after 30 minutes of injection or if he/ she has a sudden change in diet, excess dose, ill timing or wrong type of insulin. Sign and symptoms include:

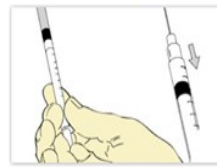


If the symptoms appear, advise patient to take sugary drinks (i.e. 2 teaspoons of sugar in 1/2 glass water) or sweets.

Injection Technique : Syringe



Step 1: Take out the insulin vial from the fridge. Roll insulin cartridge between palms gently to warm it and invert it until mixed evenly



Step 2: Pull the syringe plunger to draw air according to the dose prescribed.



Step 3: Insert the needle into the vial and press the plunger to introduce air into the vial



Step 4: Turn the vial upside down..



Step 5: Withdraw the insulin by pulling the plunger according to the units prescribed (extra 1 or 2 units of insulin can be withdrawn for removing air bubbles). If air bubble is present, tap the syringe until the air bubble move to the neck of the syringe and push the plunger slowly to remove the air.



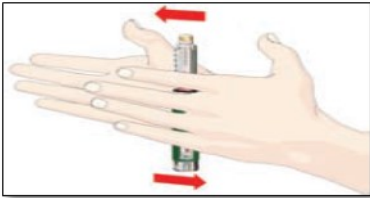
Step 6: Gently pinch the skin that has been cleaned to make a fold. Hold the fold between the thumb and the forefinger of one hand during the entire injection.



Step 7: Inject the insulin at an angle of 90° on any 1 of 3 parts of the body arms, abdomen or thigh. Hold the needle for 10 seconds before pulling the syringe out. If a slight bleeding occurs after injection, gently press the injection site with the alcohol swab. Cap the needle carefully.

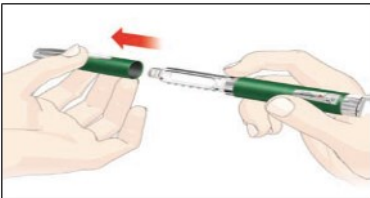
Diabetes & Insulin

Injection Technique : Humapen / Novopen



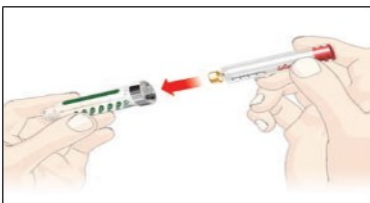
Step 1:

Roll insulin cartridge between palms gently to warm it (for Mixtard/ Humulin 30/70 and Humulin N/Insulatard, invert the cartridge to mix the insulin until uniformly cloudy).



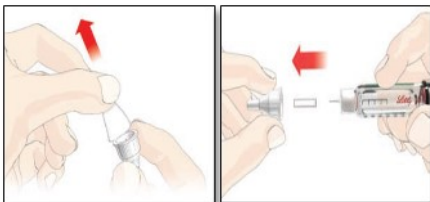
Step 2:

Push the piston rod using the finger until the piston rod is completely inside the pen body (Humapen). Or turn the pen body anti-clockwise until it is completely inside the pen body (Novopen).



Step 3:

Insert the cartridge into the cartridge holder. Screw the cartridge holder to the pen body tightly.



Step 4:

Remove the paper tab and screw the needle to the pen and remove inner and outer cap (do not keep inner cap).



Step 6: PRIMING

Dial 2 units. Hold insulin pen with the needle upwards. Flick the cartridge holder gently.



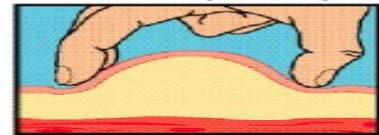
Step 7:

Push the injection button. Look for a stream of insulin at the needle tip. A new cartridge may need to be primed several times to get a stream of insulin.



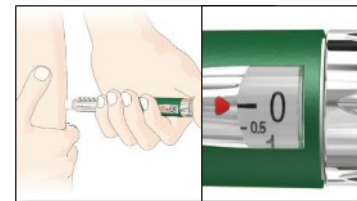
Step 8:

Dial the appropriate dose for injection by turning the dose knob. If overdial:
 a) For Humapen, dial backwards.
 b) For Novopen never dial the unit backward. Pull the cartridge holder from the pen body. Hold and press the injection button back until the figure return to 0 and release grip.



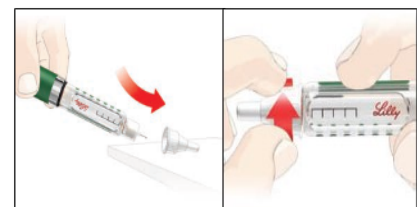
Step 9:

Gently pinch the skin that has been cleaned to make a fold. Hold the fold between the thumb and the forefinger of one hand during the entire injection. Hold the syringe firmly in your other hand using the finger grip. Insert the full length of the needle directly up and down (at an angle of 90°) into the skin fold.



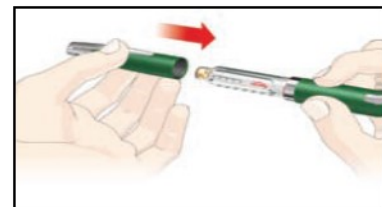
Step 10:

Press the injection button, until the figure in the dose window return to 0. Hold the needle for 10 seconds, then remove the needle from your skin. If a slight bleeding occurs after injection, gently press the injection site with the alcohol swab.



Step 11:

Put the outer needle cap on and unscrew the needle.



Step 12:

Replace the pen cap. Do not inject the insulin if you can see the cartridge plunger in the car-

Activity : Kursus Medication Safety



ANJURAN : UNIT FARMASI HOSPITAL PERMAI

TARIKH : 28 SEPTEMBER 2015
TEMPAT : BILIK SEMINAR 1 & 2 ,
HOSPITAL PERMAI

1

2

TARIKH : 30 NOVEMBER 2015
TEMPAT : BILIK SEMINAR 1 & 2 ,
HOSPITAL PERMAI

Objektif Kursus:

- ◆ Memberi pendedahan kepada peserta tentang medication safety (keselamatan pengubatan).
- ◆ Memberi kefahaman tentang pelaporan *medication error*, pengendalian troli kecemasan, *high alert medications* dan sebagainya.
- ◆ Meningkatkan penjagaan pesakit melalui keselamatan pengubatan.



Peserta:

- Pegawai Farmasi
- Penolong Pegawai Farmasi
- Penolong Pegawai Perubatan
- Jururawat
- Unit Makmal Patologi & Unit Pengimejan Diagnostik

