

Covid-19 vaccines and allergy: Let's get it righ



Wednesday, March 3rd, 2021 at [Opinion](#)



Increasing public awareness of allergic reactions to vaccines would assist in identifying those as higher, medium or lower risks

Pic BLOOMBERG

THE Malaysian National Covid-19 Immunisation Programme has now begun with the prime minister being the first to receive the first dose of the Pfizer Inc-BioNTech SE vaccine, which is sold under the brand name Comirnaty, on Feb 24.

by DR AMIR HAMZAH ABDUL LATIFF

Three days prior to that, the whole nation was enthralled with the arrival of this long-awaited vaccine after its journey really began when the science diplomacy approach was mobilised by MoH- MOSTI-MFA (Ministry of Health, Ministry of Science, Technology and Innovation-Ministry of Foreign Affairs) in April 2020.

↑

While there was excitement in the air then, there were many questions continually asked on the vaccines particularly on its safety.

It is probably appreciated by many that vaccines (for infectious diseases) usually take more than 10 years to produce, but this Covid-19 vaccine in general had taken less than 12 months to produce.

Malaysia had not only the Pfizer-BioNTech Covid-19 vaccine accessed, but other vaccines of different types other than mRNA (messenger ribonucleic acid) vaccines.

Types of Vaccines

In general, there are four types of Covid-19 vaccines in clinical trials, and several have been produced as we know them.

The four types include nucleic acid (RNA and DNA), viral vector, whole virus (inactivated and live attenuated) and protein subunit.

As noted in our National Covid-19 Immunisation Programme, there are three viral vector vaccines (from AstraZeneca plc, CanSino Biologics Inc and Gamaleya Research Institute), one whole virus inactivated vaccine (from Sinovac Biotech Ltd), and the one nucleic acid (mRNA) vaccine from Pfizer-BioNTech.

Only the Pfizer-BioNTech vaccine has been approved by Malaysia's National Pharmaceutical Regulatory Agency thus far.

Vaccine Development

Despite the speed for which these vaccines were produced (and many more are still in the pipeline), all would have undergone many stages in the development cycle of a vaccine.

These would include the exploratory stage, pre-clinical stage, clinical development, regulatory review and approval, manufacturing, quality control and post-marketing surveillance.

Clinical development is a three-phase process. During Phase I, small groups of people receive the trial vaccine.

In Phase II, the clinical study is expanded, and the vaccine is given to people who have characteristics (such as age and physical health) similar to those for whom the new vaccine is intended.

In Phase III, the vaccine is given to thousands of people and tested for efficacy and safety.

We can all be assured that no shortcuts were taken for each stage and we can be fully confident on the safety and the required efficacy of these Covid-19 vaccines, as determined by the World Health Organisation.

Potential Reactions

On Dec 8, 2020, UK became the first country in the world to start administering its citizens with a fully trialled and tested Covid-19 vaccine, soon followed by several other nations, including US.

Vaccines often cause adverse reactions; however, the vast majority of adverse events following immunisation (AEFI) are due to the protective immune response induced by the vaccine, and not due to allergic reactions.

Anaphylaxis is a severe, life-threatening form of allergic reaction that may occur after vaccination, with onset typically within minutes to hours.

Anaphylaxis as an AEFI is uncommon, occurring at a rate of less than one per million doses for most other vaccines.

Following implementation of vaccination in the US and the UK, reports of anaphylaxis after the first dose of the Pfizer-BioNTech Covid-19 vaccine emerged. Further surveillance data reported for the US suggest a rate closer to 1:200,000 doses for the Pfizer-BioNTech Covid-19 vaccine.

Approaching this concern in a more objective way, an allergy risk assessment would assist in determining whether an individual should not receive the Covid-19 vaccines, whether there is a personal background allergy history or otherwise.

In general, allergic reactions to vaccines are generally due to adjuvants and other excipients in the vaccine, such as preservatives, rather than to the active ingredient itself.

The Pfizer-BioNTech Covid-19 vaccine is not formulated with any food, drugs or latex, but does contain the excipient polyethylene glycol (PEG) which an individual may be allergic to.

As a result of this, another excipient that is derived from PEG called polysorbate is found in the two viral-vector Covid-19 vaccines from AstraZeneca and Gamaleya. It has been thought that PEG was the excipient likely to have led to the anaphylaxis cases reported in the US and the UK.

Screening and Stratification

In the risk assessment, stratification of individuals with background allergic reactions, through important screening questions can be made into higher-, medium- and lower-risk groups. The questions are:



1. Do you have a history of severe allergic reaction (anaphylaxis) to an injectable drug (intravenous, intramuscular or subcutaneous) or suppository drug?
2. Do you have a history of a severe allergic reaction (anaphylaxis) to a previous vaccine?
3. Do you have a history of severe allergic reaction (anaphylaxis) to food, drugs (non-injectable), insect sting venom (from bees, wasps) and latex?

- Higher risk: If the answer is 'Yes' to questions 1 and 2, then it should be determined whether or not the vaccines or injectable/suppository drugs to be administered do contain PEG or polysorbate. If they do contain these excipients, then he/she is categorised as higher risk for the Covid-19 vaccines, and would require further assessment by the allergist to determine eligibility for the Covid- 19 vaccine.

- Medium risk: If the vaccines or injectable/suppository drugs of which the person declared experiencing previous anaphylaxis did not contain PEG or polysorbate, then he/she is categorised as medium risk. The medium-risk group would also include a person who answered "Yes" to question 3, and has a history of anaphylaxis of unknown cause (idiopathic anaphylaxis). Those categorised in the medium-risk group can receive the Covid-19 vaccine with a 30-minute observation period.

- Lower risk: Other allergic reactions that are not anaphylactic in nature, as well as allergic rhinitis and/or asthma are categorised as lower risk groups, and can receive the Covid-19 vaccine with at least a 15-minute observation period.

Importance of Public Awareness

Therefore, increasing public awareness of allergic reactions — particularly anaphylaxis — to vaccines and/or injectable/suppository drugs and including allergy history in screening questions would assist in identifying those as higher, medium or lower risks.

Hence, all locations involved in the administration of the vaccines must be fully equipped to manage any potential cases of anaphylaxis. This will increase the level of confidence among the public to receive Covid-19 vaccines in a safe manner, and increase the number of those immunised to provide herd immunity to the nation.

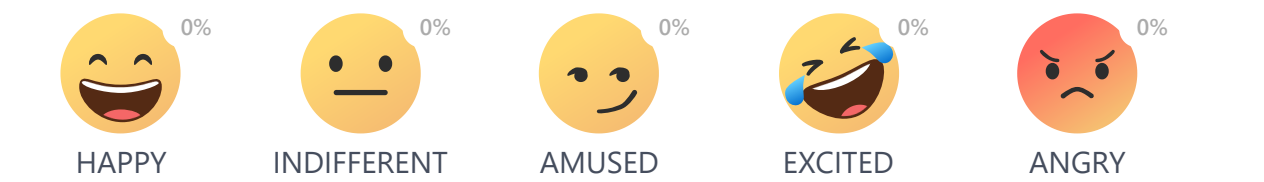
- *Dr Amir Hamzah Abdul Latiff specialises in Clinical Immunology and Allergy for both adults and children, as well as General Paediatrics, and is currently attached to Pantai Hospital Kuala Lumpur, Malaysia.*
- *The views expressed are of the writer and do not necessarily reflect the stand of the newspaper's owners and editorial board.*

Advertisement

Advertisement



What is your reaction? Pow



RELATED ARTICLES



Tuesday, March 31, 2020
Global lockdown tightens as virus deaths mount



Wednesday, May 20, 2020
Limited seats in Najib's IMDB trial as court complies with COVID-19 SOP



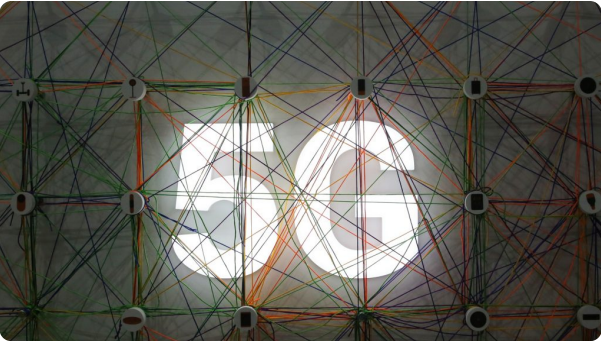
Monday, March 2, 2020
Macau casino takings plunge record 88% after virus closures



Wednesday, April 8, 2020
UK govt wasn't built for virus crisis



Sunday, May 31, 2020
An uphill battle for the Ringgit



Friday, October 9, 2020
5G: CSPs must stay agile in identifying support for clients – Nokia

TOP STORIES

Big Oil’s Net-Zero Plans Show the Hard Limits of Carbon Offsets
Wednesday, March 3rd, 2021

What I Will Miss About My Pandemic Existence
Sunday, February 28th, 2021

Shrouding inadequacies and living blissfully
Wednesday, March 3rd, 2021

Hong Kong budget misses one thing — the future
Wednesday, March 3rd, 2021

STORIES FROM SAYS

 If Your Malaysian Banknotes Have Any Of These Defects, You Should Get Them Exchanged

 Teacup Puppies Are Cute, But Here’s What You Don’t Know About Where They Come From

 Ismail Sabri: No More States Under MCO And Interdistrict Travel Permitted Starting 5 March

 Drink-Driver In Kuantan Crashes Into 22-Year-Old And Travels 1.5KM With Bike Stuck To Car





Easy Viral Hack To Clean A Blender Within Seconds So You Don't Cut Yourself On Its Blades

