ISSUE 3

A DOSE OF TRUTH

INFOVAX

BULLETIN FOR HEALTHCARE PROFESSIONALS

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INFOVAX is a community education and awareness series on Covid-19 vaccines brought to you by:

- Malaysian Medical Association Public HealthSociety (MMA PHS)
- National Cancer Society Malaysia (NCSM)
- NCD Malaysia.

This bulletin summarises the key points from our discussions with experts. **Watch the session at bit.ly/infovaxcardiomet**

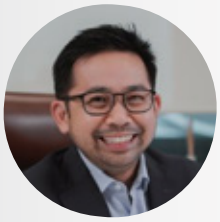
Feel free to ask questions and clear your doubts about Covid-19 vaccines by emailing us at **infovax21@gmail.com** Your questions and answers will be collated and answered in the following sessions.

COVID-19 VACCINATION AND THE CARDIOMETABOLIC PERSPECTIVE

CRITICAL INSIGHTS FOR HEALTHCARE

Experts:

Datuk Dr Zanariah Binti Hussein
Consultant Endocrinologist and Physician,
Hospital Putrajaya,
Ministry of Health Malaysia



Dr Al Fazir Omar
Consultant Cardiologist,
Cardiac Vascular Sentral,
Kuala Lumpur

Compiled by:
Dr Murallitharan M., Mandy Thoo, Dr Tan Jia Hwong, Subashini Raj

Highlights

Patients living with cardiometabolic disease such as diabetes mellitus and cardiovascular disease are at an increased risk of severe Covid-19 infections as compared to general population.

Patients living with cardiometabolic disease are in the priority group for Covid-19 vaccination as these vaccines could provide the following protection to these patients, including:

- a reduced risk of developing severe illness from Covid-19, and
- prevention of hospitalisation and death due to Covid-19

Common side effects from the vaccine are similar to patients without cardiometabolic disease, such as pain or tenderness on the injection site, fatigue, headache, muscle pain, fever and chills (usually for 1 to 2 days). However, these side effects may lead to high blood glucose level. Therefore, it is important for diabetic patients to monitor their blood glucose level after vaccination.

Diabetic patients on insulin therapy or antidiabetic medications are safe to get vaccinated as at this time there is no information available on drug interactions between insulin and antidiabetic drugs and Covid-19 vaccines.

These are the recommendations for patients on anticoagulation and antiplatelet drugs treatment:

Drugs	Warfarin	Direct oral anticoagulants (DOAC) and low molecular weight heparin (LMWH)	Antiplatelet such as Aspirin and Clopidogrel
Recommendations	• Patients on warfarin are safe to get vaccinated if their most recent international normalised ratio (INR) is below four (4), without stopping the drug. • On the day of vaccination, warfarin should be taken after vaccination. • If the patients are on concomitant warfarin and antiplatelet therapy, they should consult with their primary doctor prior to getting vaccinated.	• Patients on maintenance therapy with DOAC, LMWH or Fondaparinux are safe to get vaccinated. • On the day of vaccination these drugs could be given after vaccination.	• Patients on single antiplatelet agents are safe to get vaccinated without altering the course of the treatment. • Patients on dual antiplatelet agents should consult with their primary doctor prior to getting vaccinated.

Table 1. Recommendations for patients on anticoagulation and antiplatelet drugs treatmentAdapted from the Malaysian Society of Haematology (1)

Source: (1) Malaysian Society of Haematology. Consensus Statement on Covid-19 Vaccination for Patients with Haematological Disorders [Internet]. March 2021. [cited June 8 2021]. Available from: https://haematology.org.my/site/wp-content/uploads/2021/03/CONSENSUS-STATEMENT-ON-COVID-19-VACCINATION-IN-HAEMATOLOGY-30-Mar-2021.pdf

Frequently Asked Questions (FAQs)

1. Which vaccine is the safest for patients with cardiometabolic disease?
All three Covid-19 vaccines currently authorised in Malaysia's national Covid-19 vaccination programme—Pfizer-BioNTech vaccine, CoronaVac/Sinovac and Oxford AstraZeneca vaccine are equally safe and effective for patients with cardiometabolic disease.

2. Is it safe for patients with different chronic diseases such as heart conditions, hypertension, or diabetes, and on multiple medications to get vaccinated?
It is safe and in fact, encouraged for patients with pre-existing conditions to get vaccinated as they are usually at a higher risk for being infected with Covid-19. Patients with comorbidities need to be prioritised, rather than be cautious.

3. Do patients with existing or previous health conditions such as cardiac disease or diabetes need to be vaccinated in a hospital setting?
Not necessary. If patients are in a stable condition and do not have any serious allergies that can cause them to develop an allergic reaction to the vaccination, they can be vaccinated at their assigned vaccination centres.

4. Is it safe for cardiovascular patients on single or dual antiplatelet and anticoagulation therapy to get vaccinated?
All cardiac patients can and are encouraged to get vaccinated. If the patient is in a stable condition, they can safely get vaccinated. There is no need to alter the current medication regimen on the days leading up to the vaccination.

5. How long after a myocardial infarction (MI) or cardiac procedure is it safe for a patient to get vaccinated?
Right now there is no information available on the timing of vaccination after recovering from myocardial infarction. However, these patients are safe to get vaccinated as soon as they are medically stable— a return to all daily activities such as walking. The expert consensus is not to delay vaccination longer than necessary since these patients are at higher risk for developing severe Covid-19 infections.

6. Can the post-vaccination inflammatory immune response trigger a cardiac event in patients with pre-existing cardiac conditions and multiple comorbidities?
There are few case reports of deaths due to a cardiac event post-vaccination, the majority of which are among elderly patients. Additionally, the numbers reported are still within the normal rates of acute myocardial infarction (AMI) pre-vaccinations, and as such, cannot be attributed to Covid-19 vaccinations alone. The V-safe data even shows that it is safer to get vaccinated in terms of cardiac events than to forego vaccination.

7. Should an INR test be conducted for patients on anticoagulants before their vaccination?
Only recommended for patients on Warfarin who have highly fluctuating levels. If the patient has had consistently low INR levels and their medication has been stable, an INR test is not necessary.

8. What is the risk of developing myocarditis and pericarditis following an mRNA Covid-19 vaccination?
(Based on the data on US Vaccine Adverse Event Reporting System (VAERS), there are 1226 out of 300 million doses of the Pfizer BioNTech and Moderna vaccines presented with myocarditis and pericarditis.) These cases of inflammation have been rare, at a chance of 0.0045%. The reaction has been mostly in young male patients after getting the second dose. Most patients with this reaction responded well to treatment and recovered quickly. The patients can be treated with the usual course of treatments for myocarditis and pericarditis.

9. Is it safe for patients with endocrinological disorders such as hyperthyroidism, hypothyroidism, and adrenal disease to get vaccinated?
Patients with other endocrinological disorders such as thyroid disease and adrenal disease are safe to get vaccinated if they have no other contraindications—that is, if there is no history of anaphylaxis to any ingredients of the vaccine.

10. Are diabetic patients at an increased risk of side effects or adverse reactions post-vaccination?
There has been no evidence or indication that diabetic patients are at an increased risk of side effects after getting vaccinated.

11.Should diabetic patients on oral hypoglycaemic agents or insulin have any concerns regarding the Covid-19 vaccines?
There are no specific cautions or concerns that diabetic medications will react with the vaccine or predispose the patients to certain side effects. However, the flu-like symptoms seen in patients after vaccination can be a stressor that may cause hyperglycaemia in some Type 1 diabetics. In this case, the patient should monitor their blood sugar levels more closely for the days that the symptoms persist and adjust their insulin dosage accordingly. Type 2 diabetics generally will not have any such reactions.

12. Is there a cut-off dextrose level at which a patient should be deferred from vaccination?
There is no cut-off level.

13. Should diabetic patients with uncontrolled hyperglycaemia be deferred from their vaccination?
There is no reason for patients with long standing suboptimal control to defer their Covid-19 vaccinations. In fact, having suboptimal control increases the patients' chance for getting a Covid-19 infection and increases their risk of severe illness, requiring hospitalisation.

14. Should the patient alter their medication timings (e.g., insulin injection, oral medications) in response to their vaccination?
There is no need for patients to alter the time of day that their medication is taken in preparation or in response to their vaccination.

15.Do the patients on steroid therapy need to adjust the dose before vaccination?
It is not necessary to alter the course of steroid treatment before vaccination. It is safe for patients on steroid treatment to get vaccinated. However, whether to adjust the dose of the steroid after vaccination, the decision depends on the discretion of the patients' treating doctor.

16. Can the post-vaccination inflammatory immune response trigger a cardiac event in patients with pre-existing cardiac conditions and multiple comorbidities?
There are few case reports of deaths due to a cardiac event post-vaccination, the majority of which among elderly patients. Additionally, the numbers reported are still within the normal rates of acute myocardial infarction (AMI) pre-vaccinations, and as such, cannot be attributed to Covid-19 vaccinations alone. The V-safe data even shows that it is safer to get vaccinated in terms of cardiac events than to forego vaccination.

17. Should a C-reactive protein (CRP) test be conducted for elderly patients before their vaccination?
Not necessary.

18. For Covid-19 positive patients with diabetes or cardiovascular disease, is there any special consideration when getting vaccinated after recovery from disease?
Patients who have been Covid-19 positive are recommended to get vaccinated about 3 months after their infection. However, there are currently no special considerations for patients with diabetes or cardiovascular disease.

19. For those who are Covid-19 positive after getting the first dose of the vaccine, how long should it be before they get their second dose?
The current CDC guidelines state that patients can get their second dose 2 to 6 weeks after recovering from an illness, whether it is Covid-19 or other infections.

Key Points

- **Patients with cardiometabolic and other comorbid conditions are at higher risks for a Covid-19 infection and to develop severe disease once infected. These patients should be prioritised for vaccination.**
- **All available Covid-19 vaccines are safe and effective for use.**

Malaysian Medical Association (MMA),
4th Floor, Bangunan MMA, 124 Jalan Pahang, 53000 Kuala Lumpur, Malaysia.

T: 03-4041 1375 F: 03-4041 8187 E: info@mma.org.my

www.mma.org.my

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