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CASE SERIES OF ANAPHYLAXIS FOLLOWING IMMUNISATION OF PHASE 1 NATIONAL COVID-19 VACCINATION PROGRAM IN INSTITUT JANTUNG NEGARA

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INTRODUCTION

Institut Jantung Negara (IJN) participated in Phase 1 National COVID-19 Vaccination Program for front liners from 1st March 2021. All acute Adverse Events Following Immunization (AEFI) that required treatment were managed in the Emergency Department (ED). We describe 3 cases of anaphylaxis after receiving Comirnaty® vaccine.

CASE REPORT

Case 1 was a 30 year old male with a history of bronchial asthma with multiple allergies including history of anaphylaxis to seafood. He developed severe bronchospasm, hypoxia, tachycardia and restlessness shortly after receiving the 1st Comirnaty® vaccine dose. He required repeated doses of intramuscular (IM) adrenaline, nebulised salbutamol and intravenous (IV) hydrocortisone. Subsequently, an adrenaline infusion was administered. His treatment in the Coronary Care Unit (CCU) included magnesium sulphate, ketamine infusion, aminophylline and intermittent non-invasive ventilation. He had recurrent episodes of severe bronchospasm during admission which led to his prolonged length of stay for 14 days. He was referred to an Allergist upon discharge and tested positive for allergy to Polyethylene Glycol (PEG) He was vaccinated with Sinovac at a later date.

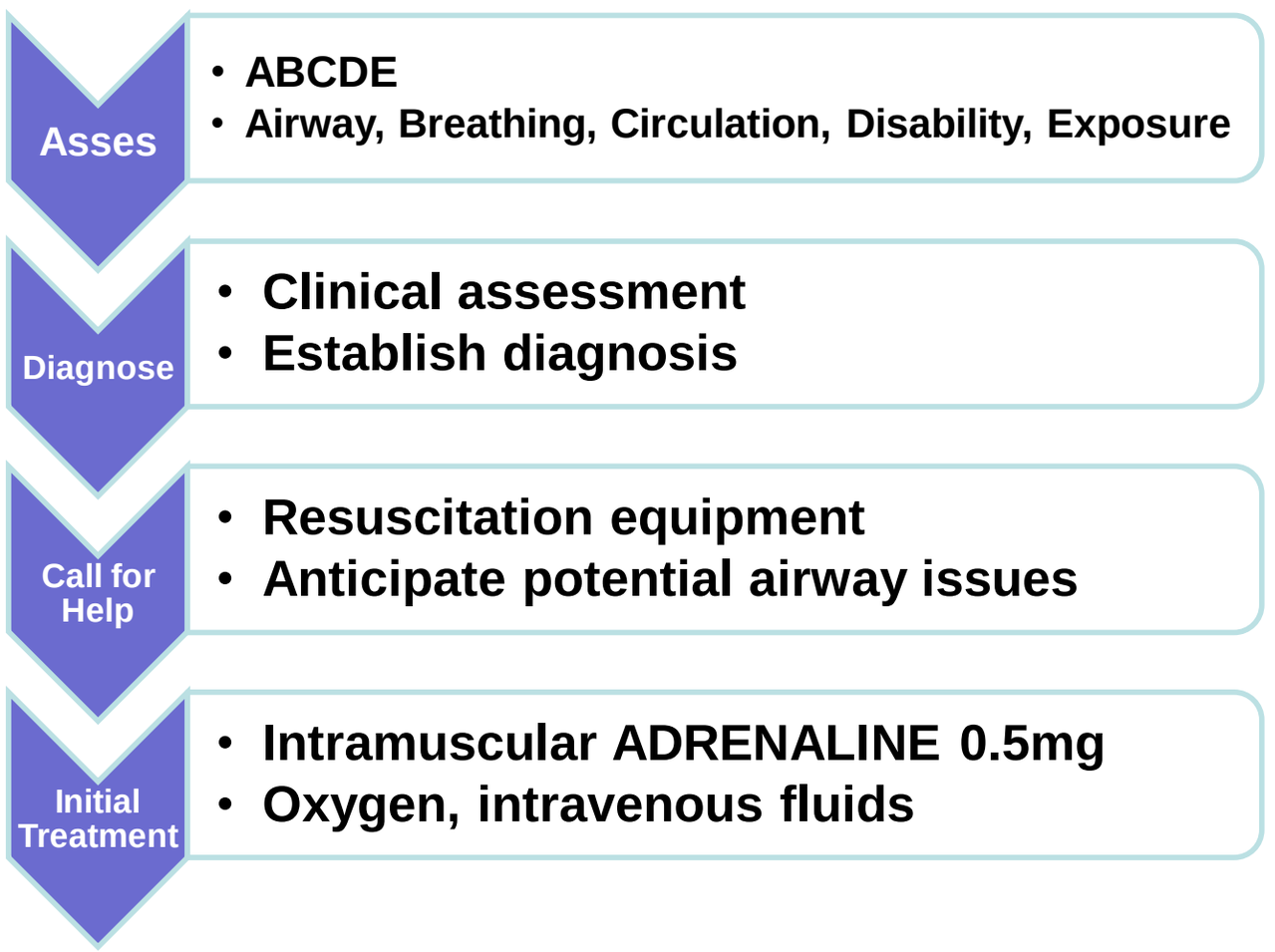
Case 2 was a lady with a history of multiple medication allergies including non-steroidal anti-inflammatory (NSAID) drugs and food allergies. She developed choking sensation, tachycardia and feeling of impending doom several minutes after receiving her 2nd Comirnaty® vaccine dose. She was treated with IM Adrenaline boluses, IV hydrocortisone and also required adrenaline infusion and short duration of non-invasive ventilation (NIV). She was admitted to CCU for 4 days. She had no reaction to the 1st dose of Comirnaty® vaccine. She was referred to an Allergist on discharge

Case 3 had history of generalised rash after the 1st Comirnaty® dose which was not disclosed prior to the 2nd vaccine dose. She developed severe bronchospasm and was given IM Adrenaline, nebulised salbutamol and IV hydrocortisone. She required one day of hospitalization and was discharged well.

DISCUSSION

More common presentations to ED following immunisation were palpitations and giddiness. Delayed reactions were mostly self-limiting viral-like illness. 3 cases of anaphylaxis were briefly assessed in the designated Sick Bay at the the Vaccination Centre and immediately sent to ED for management.

The 3rd edition Ministry of Health (MOH) Clinical Guidelines on Covid-19 Vaccination in Malaysia quotes the Comirnaty® vaccine anaphylaxis rate ranged from 4.7 cases/million doses in US up to 24 cases/million doses in Japan (Table 1). As of 16th June 2021, Malaysia's anaphylaxis incidence was 6.6 cases/million doses.



CONCLUSION

Phase 1 National COVID-19 Vaccination Program for front liners was conducted in March 2021 following earlier MOH guidelines where there was paucity of information regarding people with complex allergy histories. The updated guidelines in July 2021 provided comprehensive information on management of such cases. Anaphylaxis is a rare but serious AEFI to Comirnaty® vaccine. Prompt recognition of anaphylaxis and immediate treatment with adrenaline are key in management of this unintended event to avoid morbidity / mortality.

COVID-19 Vaccine	Incidence of Anaphylaxis (cases/million doses)					
	CDC US	MHRA UK	Japan	Singapore	Chile	Malaysia
Cominarty® (Pfizer-BioNTech)	4.7	14.2	24	8.8		6.7
ChAdOx1-S (Oxford-AstraZeneca)		17.5				0
Ad26.COV2-S® [Recombinant] (Janssen)	<0.5					
ConvideciaTM (CanSinoBio)						
CoronaVac® (Sinovac)					17	0.8

Table 1: The incidence of anaphylaxis following COVID-19 vaccinations based on reports on adverse event following immunizations in different countries.

REFERENCES

The Authors have no conflicts of interest to declare. We would like to acknowledge staff of IJN Vaccination Centre & Emergency Department for the data provided and prompt management of the cases.

1. Clinical guidelines on COVID-19 vaccination in Malaysia. Ministry of Health, Malaysia. 3rd Edition, July 2021.
2. Management of anaphylaxis in the vaccination setting. Resuscitation Council UK and Public Health England, Dec 2020.