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CONSENSUS STATEMENT

COVID-19 VACCINATION

FOR BENIGN HAEMATOLOGICAL CONDITIONS

SINGAPORE SOCIETY OF HAEMATOLOGY &
CHAPTER OF HAEMATOLOGISTS
COLLEGE OF PHYSICIANS, SINGAPORE

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SINGAPORE SOCIETY OF HAEMATOLOGY

CONSENSUS STATEMENT ON COVID-19 VACCINATION FOR BENIGN HAEMATOLOGICAL CONDITIONS

Patients with bleeding disorders e.g. haemophilia, thrombocytopenia

1. People with bleeding disorders are not at greater risk of contracting COVID-19 or developing a severe form of the disease, so they are not considered a priority group for vaccination.

2. There are no specific contraindications to vaccination related to complications of haemophilia and other bleeding disorders or their therapies.

3. All rare bleeding disorder patients (including those with thrombocytopenia and/or platelet function disorders) can be vaccinated.

4. Patients with a history of allergic reactions to extended half-life clotting factor concentrates containing polyethylene glycol (PEG) should discuss vaccine choice with their physician because some COVID-19 vaccines (e.g. Pfizer-BioNTech vaccine) contain PEG as an excipient.

5. For patients with severe/moderate haemophilia, the vaccine injection should be given after a prophylactic Factor VIII (FVIII) or Factor IX (FIX) infusion. For patients with a basal FVIII or FIX level above 10%, no haemostatic precautions are required.

6. Patients on emicizumab (with or without an inhibitor) can be vaccinated by intramuscular injection at any time without haemostatic precautions and without receiving a dose of FVIII or bypassing agent.

7. Patients with Type 1 or 2 Willebrand disease (VWD), depending on their baseline von Willebrand factor (VWF) ristocetin cofactor (RiCof) activity levels, should use therapies (i.e., DDAVP if available, or tranexamic acid), in consultation with their haematologists. Patients with Type 3 VWD should be given a prophylactic dose of VWF concentrate infusion prior to the intramuscular COVID vaccination.

8. Patients with platelet counts ≥ 50 x 10^9/L can proceed with vaccination without additional haemostatic support.

9. Patients with platelet counts between 20 and 50 x 10^9/L should defer the vaccination till their platelet counts recover if possible. For those with platelet counts chronically within this range, vaccination should be performed in consultation with their primary haematologist and to consider giving an oral dose of tranexamic acid 500mg 1 to 2 hours before the vaccine injection, if there is no contraindication.

10. Patients with other rare bleeding disorder including platelet function disorders should be vaccinated in consultation with their primary haematologists. Consider to administer an oral dose of tranexamic acid 500mg 1 to 2 hours before the vaccine injection, if there is no contraindication.

11. The vaccine should be administered intramuscularly. There is no data for subcutaneous route and it should not be done. The smallest gauge needle available (25-27 gauge) should be used, if possible. Pressure should be applied to the site for at least 5-10 minutes post-injection to reduce bleeding and swelling. Additionally, self-inspection/palpation of the injection area several minutes and 4-6 hours later is recommended to ensure that there is no delayed haematoma. Discomfort in the arm felt for 1-2 days after injection should not be alarming unless it worsens and is accompanied by swelling. Any adverse events (e.g., haematoma, allergic reaction) should be reported to the haematology clinic or emergency department.

Patients on anti-coagulation and anti-platelet agents

The vaccine should be administered intramuscularly. The smallest gauge needle available (25-27 gauge) should be used, if possible. Pressure should be applied to the site for at least 5-10 minutes post-injection to reduce bleeding and swelling. Additionally, self-inspection/palpation of the injection area several minutes and 4-6 hours later is recommended to ensure that there is no delayed haematoma. Discomfort in the arm felt for 1-2 days after injection should not be alarming unless it worsens and is accompanied by swelling. Any adverse events (e.g., haematoma, allergic reaction) should be reported to the haematology clinic or emergency department.

Warfarin

1. Patients with stable anticoagulation with international normalized ratio (INR) <3 on their last scheduled visit can receive intramuscular vaccination without stopping. If there are any clinical concerns, clinicians may consider stopping for 1-2 days before the injection.

2. Patients with unstable INRs should have INR testing within 72 hours prior to injection. Patients with INR <3 may proceed directly with intramuscular vaccination or clinicians may consider stopping warfarin for 1-2 days before the injection.

3. Patients with higher intensity anti-thrombotic treatment, for example warfarin with a target INR >=3.0 or concomitant antithrombotic medications (such as an antiplatelet agent in addition to an anticoagulant), should be managed on an individual basis in consultation with their primary physician.

4. All patients should hold their warfarin dose on the day of the vaccination until at least 4-6 hours after the vaccination. Patients should resume their normal warfarin dose 4-6 hours post injection if there is no hematoma.

Direct Oral Anticoagulants and Low Molecular Weight Heparins

1. Patients on once daily rivaroxaban and once daily low-molecular weight heparin (LMWH) can receive intramuscular vaccination. All patients should hold their anticoagulant dose on the day of the vaccination until at least 4-6 hours after the vaccination. Patients should resume their normal anticoagulant dose 4-6 hours post injection if there is no hematoma.

2. Patients on twice daily dabigatran, apixaban or LMWH can receive intramuscular vaccination. Patients should miss one anticoagulant dose prior to vaccination on the day of intramuscular injection. Patients can resume their second dose 4-6 hours post injection if

there is no hematoma

Anti-platelet agents

1. Patients on single agent anti-platelet therapy (e.g., aspirin or clopidogrel) can continue on these medications without any adjustment.

2. Patients on dual antiplatelet agents should be managed on an individual basis and in consultation with their primary physician.

Patients with Haemoglobinopathies and Rare Inherited Anaemias

1. This includes all adults with transfusion-dependent thalassaemia and inherited rare anaemias who have severe iron overload. These patients can receive COVID-19 vaccination.

2. In patients with splenectomy or functional asplenia [e.g., transfusion-dependent thalassaemia, hereditary spherocytosis], all routine vaccines likely effective and therefore these patients should receive COVID-19 vaccination

Patients with autoimmune haematological conditions on immunosuppression

1. There are no clinical trials of COVID-19 vaccine which enrolled immunocompromised patients. Thus, the efficacy and safety of a COVID-19 vaccine has not been established in the different immunocompromised patient populations.

2. The following immunocompromised haematology patient populations could have attenuated or absent response to COVID-19 vaccines:
    - Primary and secondary immunodeficiencies involving adaptive immunity
    - B cell directed therapies [e.g. anti-CD20 monoclonal antibody rituximab]
    - T cell directed therapies [e.g., calcineurin inhibitors, antithymocyte globulin]
    - Receiving daily corticosteroid therapy with a dose ≥20 mg (or >2 mg/kg/day for patients who weigh <10 kg) of prednisone or equivalent for ≥14 days

3. The risks and benefits for immunocompromised patients receiving the vaccine should be weighed on a case-by-case basis. If plans to proceed with the vaccine are made, we recommend completing full course of vaccination at least 2 weeks prior to the planned immunosuppressive therapy or splenectomy. If the patient is receiving or has received immunosuppressive therapy, consider vaccination 6 months after the patient has been taken off immunosuppressive therapy to increase the likelihood of developing immunity.

> If patients experience an allergic reaction (fever, warmth, redness, itchy skin rash, shortness of breath, or swelling of the face or tongue) should contact their physician immediately or go to the nearest hospital emergency department right away as it can be life-threatening.

RESOURCES

1. https://b-s-h.org.uk/media/19195/haematology-covid-19-v10-vaccination-statement-231220.pdf
2. https://news.wfh.org/covid-19-vaccination-guidance-for-people-with-bleeding-disorders/
3. https://thalassaemia.org.cy/wp-content/uploads/2020/12/TIF-Position-Statement_COVID-19-Vaccines_201230.pdf
4. https://www.hematology.org/covid-19/ash-astct-covid-19-and-vaccines
5. Rubin LG, Levin MJ, Ljungman P, Davies EG, Avery R, Tomblyn M, et al. 2013 IDSA clinical practice guideline for vaccination of the immunocompromised host. Clin Infect Dis. 2014;58(3)

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