ANZTCT

Australia and New Zealand Transplant and Cellular Therapies COVID19 Vaccination Consensus Position Statement
20th January 2021

In contrast to several peer countries, Australia and New Zealand have had very good control of community spread of SARS-CoV-2 during the global pandemic. Amongst haematopoietic stem cell transplant and CAR-T cell (TCT) patients, there has been 1 death and <5 infections reported to date.

Haematology patients including bone marrow transplant patients are at increased risk of complications and death from COVID-19 with an estimated mortality of up to 36%, which is comparable to the mortality rate of aged care residents (1, 2). This data should inform future preventative efforts as both countries commence their vaccination campaigns.

There are two vaccines of relevance in Australia and New Zealand. The Pfizer/BioNTech SARS-Cov-2 vaccine is a first-in-class mRNA vaccine which in an international phase 3 study was administered to n=43,448 participants aged 16 or over in a 2-dose regimen 21 days apart. The vaccine was 95% efficacious against symptomatic COVID-19 from 7 days after the 2nd dose. Efficacy was consistent across age, gender and ethnicity, and no serious safety concerns were reported. Importantly, the trial included a small number of patients (76) with leukaemia or lymphoma who responded with similar efficacy. (3) The AstraZeneca ChAdOx1 nCOV-19 vaccine is a replication deficient chimpanzee adenoviral vectored vaccine given in a 2 dose regimen. In a pooled analysis across 4 studies with non-standardised dosing, the overall vaccine efficacy was 70.4% with no serious safety concerns reported. (4) In a subgroup of 8,895 participants who received the 2 standard doses (as will be rolled out in Australia and New Zealand), the vaccine efficacy was 62%. Experience with similar viral vectored vaccines such as this, is limited with no evidence in immune compromised patients. The Moderna mRNA SARS-CoV-2 vaccine (mRNA-1273) is another 2 dose regimen vaccine administered 28 days apart, shown in a phase 3 study to have an overall efficacy of 94.1%. (5). However, this vaccine is currently unavailable in Australia and New Zealand. Other vaccines are in development and under consideration for use in Australia and New Zealand include the Novovax vaccine NVX-CoV2373,the Janssen vaccine Ad26Cov2S and access to the COVAX facility.

None of these studies other than the Pfizer/BioNTech study included immunocompromised participants or TCT patients. There are currently no studies specifically evaluating vaccine response or efficacy in TCT patients. Despite the lack of data, there is no immunologic rationale to suggest that these vaccines might be harmful, and there is no risk of developing COVID-19 from these vaccines as none are live vaccines. While there is no specific data on patients with graft versus host disease, other vaccine products have not shown a risk of worsening acute or chronic graft versus host disease.

Given this paucity of data, representatives of all adult and paediatric TCT centres in Australia and New Zealand and Infectious Disease specialists with expertise in TCT have collectively come to a consensus regarding COVID-19 vaccination in TCT patients in Australia and New Zealand:

1. Given the high mortality risk associated with COVID19 in TCT patients, TCT patients and health care workers delivering care to these patients should be prioritised (6).
2. The benefits of vaccination outweigh the unknowns in TCT patients without contraindications such as allergies to the vaccine.
3. Patients planned for TCT should be vaccinated as soon as feasible prior to TCT without deferral of TCT.
4. It is acknowledged that optimal responses to the vaccine are more likely >6 months post TCT and when patients are off immunosuppressive therapy. Clinicians could consider vaccination as early as 3-6 months post TCT in patients aged ≥16 depending on local and community transmission and clinical factors. (6, 7)

5. The unknown risks in the setting of graft versus host disease (GVHD) are likely to be outweighed by the benefits, particularly in patients with lung GVHD. Therefore, in allogeneic HSCT recipients who remain on immunosuppressive therapy beyond 6 months consideration should be given to the indication, intensity and expected duration of immunosuppressive therapy when deciding whether to vaccinate or defer. Especially if patients are close to weaning off immune suppressive therapy, a short period of deferral may improve immunogenicity to vaccination and would be appropriate in the context of well controlled community transmission. (6, 7)
6. TCT patients should be advised to continue to practice usual public health measures (e.g. masks, physical distancing, avoiding crowds, ensuring good indoor ventilation, and hand hygiene) in accordance with national and regional guidelines after vaccination as immunogenicity and efficacy in these patients is unknown. (7)
7. Available vaccines are not licensed for use in patients under the age of 16 years noting that trials are underway to answer this question. (7)
8. Healthy bone marrow transplant donors should be vaccinated as soon as possible prior to donation, preferably within 3 months prior to donation without deferral of donation.
9. Household transmission is one of the most common mechanisms of SARS-CoV-2 transmission so vaccination of household members and or carers of TCT patients should be prioritised.
10. Acknowledging the lack of data for efficacy and safety in TCT patients, the Pfizer/BioNTech SARS-Cov-2 vaccine has high efficacy in the general population and is the only vaccine with (albeit limited) data in patients with haematological malignancy, and therefore considered the preferred vaccine in TCT patients, health care workers delivering their care and household members.
11. Where possible, assessment of vaccine response with post vaccination serology testing should be performed in TCT patients.
12. Studies to determine the optimal vaccine, timing, number of doses and schedule in TCT patients are urgently needed. It is also important to consider the role of donor vaccination and the role of vaccination in paediatric TCT patients since this cohort was excluded from the pivotal above mentioned studies.

These statements will be regularly reviewed and updated as further data on vaccines emerge. Updates will be made on the ANZTCT website www.anztct.org.au.

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