Effect of BNT162b2 and CoronaVac boosters on humoral and cellular immunity of individuals previously fully vaccinated with CoronaVac against SARS-CoV-2: A longitudinal study

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Study Population

- 2 doses of CV + BNT162b2 Booster n=42
- CoronaVac Booster n=10

Methods

- Neutralizing Antibody
- ELISPOT & FLOW

3.38-fold increase in neutralizing antibody levels was detected in the BNT booster group in 1st month

Neutralizing Antibody Responses

- In the ELISpot assay, IL-2 levels after BNT were higher than baseline and CV booster while IFN-γ levels were significantly higher than baseline.

T cell Responses

Conclusion

- The neutralizing antibody levels after 3 months of the BNT booster were higher than the antibody levels after CV in fully vaccinated individuals. On the contrary, ratio of the effector T cells increased along with greater IFN-γ activation after BNT booster. By considering the waning immunity, we suggest a new booster dose with BNT for the countries that already had two doses of primary CV regimens.

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