COVID-19 vaccination and changes in blood pressure

Ch'ng Chin Chin[1], Ong Loke Meng[2], Wong Khar Ming[3]

[1]Clinical Research Centre, Hospital Pulau Pinang, [2]Department of Medicine, Hospital Pulau Pinang, [3]Hospital Pulau Pinang

ABSTRACT

Introduction: Some healthcare staff observed an increase in their blood pressures (BP) after the SARS-CoV-2 vaccination, thus Hospital Pulau Pinang (HPP) began collecting vital signs during the second dose of the vaccination. We aimed to compare the changes in BP after vaccination. **Methods:** This was an observational study using secondary data collected as part of the SARS-CoV-2 vaccination in HPP. Changes in BP immediately after and 15-30 minutes post vaccination were compared with baseline using paired t-tests. **Results:** A total of 4906 staffs received 2 doses of the BNT162b2 mRNA COVID-19 vaccine. Most subjects did not report any adverse effects. Common adverse effects were redness, pain or swelling at the injection site, tiredness, fever, chills, headache and myalgia. Mean pre-vaccination systolic and diastolic BPs were 130.1 (SD 17.38) mmHg and 80.2 (SD 11.62) mmHg, respectively. BP was increased in more than half of the subjects immediately and 15-30 minutes post vaccination however, the mean increases were small. Among those with hypertension (n=244), only increases in diastolic blood pressure were significant. Overall, 58 (1.02%) were admitted into the observation room either due to hypertensive urgency or complaints of giddiness. **Conclusion:** Overall, the increases were relatively small and may not prevail over the benefits offered by vaccination. However, monitoring of BP may be warranted to prevent any unexpected serious events.