

Blood pressure alterations in recently COVID-19 vaccinated patients

E. Sanidas, D. Papadopoulos, T. Anastasiou, M. Velliou, E. Michalaki, A. Fotsali, S. Golemati, M. Mantzourani, J. Barbetseas

Laiko University General Hospital, Hypertension Excellence Centre, Athens, Greece

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Background: A non-immediate hypertensive response short after COVID-19 vaccination has been reported. Mild to moderate elevated arterial blood pressure (BP) levels have been documented few days after a single or two-doses vaccine. This study sought to investigate this observation as a potential side effect in patients with known hypertension and healthy controls.

Methods: A total of 100 vaccinated patients between the age of 50 to 70 years old were studied. They were randomly assigned to one of the approved and available vaccines (Pfizer, Astra Zeneca, Moderna, Johnson & Johnson). Half of them were hypertensives under medical treatment and half of them were not. All participants had systolic BP <140mmHg and diastolic BP <90mmHg before vaccination and volunteered for standard daily home BP measurements (HBPM) and ambulatory BP measurements

(ABPM) between the 1st and the 21st day after considered fully COVID-19 vaccinated.

Results: All patients, hypertensives or not, had at some point a recorded hypertensive response for both systolic (SBP) and diastolic (DBP) BP after considered fully vaccinated. Hypertensives were older and with higher body mass index (BMI). Some of the hypertensive patients received additional medication whereas some of the non-hypertensive patients started life modification changes and systematic BP measurements for a possible diagnosis of hypertension.

Conclusions: Vaccination for COVID-19 seems to be related with a short period of hypertensive response. This phenomenon was partial and mostly observed in older overweight hypertensives.

		Hypertensives (n=50)	Healthy controls (n=50)	p-value
Age (years)		64±7.2	58±8.2	0.007
Male gender		25	25	0.1
BMI (kg/m ²)		28.3±4.5	27.8±1.5	0.02
Home BP mean	SBP	174.7±39.8	157.6±44.1	0.001
	DBP	97.3±5.8	95.8±7.3	0.05
24-hour BP mean	SBP	176.7±42.4	155.6±35.9	0.001
	DBP	98.3±8.1	93.8±5.7	0.06

Table 1