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The Medical Bulletin

In Cardiology

Covid19 and brugada syndrome

Brugada syndrome (BrS) is a hereditary cardiac disease predisposing to SCDin patients with structurally normal heart. In the Survey on Arrhythmic Events (AEs) in BrS (SABRUS) registry fever-related AEs are the first manifestation in majority of BrS patients and frequently occur in asymptomatic patients without spontaneous type 1 ECG pattern; moreover, the 77% of children and 27% of adults with fever-induced AEs presented SCN5A pathogenic variants. Sodium channel function seems either less expressed or rapidly inactivated at higher temperatures, thus sensitizing patients to develop life-threatening arrhythmias, as also confirmed by further studies.

COVID-19 clinical presentation is characterized by fever in about 92.8% of adults and 43.9% of children. Which can trigger AEs leading to high mortality?

Thus, a rapid diagnosis, isolation, and intensive clinical management is crucial for BrS patients with COVID-19.

They should be considered belonging to frail category for the COVID-19 vaccination program BrS patients with spontaneous pattern have higher risk of fever-related AEs compared to drug-induced pattern (0.5–0.8%/year vs. 0–0.35%/year); moreover, BrS children (<16 years of both genders) exhibit a considerable risk of AEs, up to 67% of fever-induced AEs occurred in 5 years old or younger children, while AEs are rare in the elderly BrS patients (>70 years).

COVID-19 vaccines both mRNA and adenoviral vectored Vaccines are burdened by several side effects, particularly fever which usually occurs within the first 2 days MrNA 1st dose 28% and 2nd dose 45%; Adenoviral vaccine26.7% in patients aged 18–59 and 10% aged >60 years, BrS patients should be managed at hospital vaccination centres so that adequate management proportionate to their. AE risk could be guaranteed, allowing greater safety and avoiding delays in vaccinations.

Vaccination management for BrS patients' needs dosage adjustment according to age, weight, kidney and liver function. History of ventricular arrhythmias and/or spontaneous type 1 ECG pattern with history of arrhythmic syncope All BrS patients a prophylaxis with paracetamol 1000 mg every 6 h, acetaminophen 1000 mg every 6 h, ibuprofen 600 mg every 6 h, or other

antipyretics, with dosage adjustment according to age, weight, kidney, and liver function, within the first 24–48 h, in order to reduce the risk of fever onset. Daily fever self-monitoring is a must. If fever unresponsive to antipyretics, they should be monitored in ED till fever resolves, especially high risk category BrS patients without history of AEs considered for hospitalization following the COVID-19 vaccination, even without fever especially if they are not on implantable cardiac defibrillator Achievement of herd immunity may protect this special population as well.

Reference

Europace. 2021;23(12):1871-1872. © 2021

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