

Correspondence

To the Editors

Respiratory sinus arrhythmia reactivity: Clinical entity to be recognized in the present mass Covid-19 vaccination

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Dear Editors,

Vaccination is currently a standard prevention strategy against Covid-19. The vaccination in adolescents by mRNA vaccine has just been approved. As a new vaccine, vaccine hesitancy usually occurs when there is news on possible adverse effect of Covid-19 vaccination. Good public health information is a key factor for promoting mass vaccination coverage. In adolescents an extremely, self-limited cardiac adverse event might occur¹. The abnormal electrocardiogram (ECG) following Covid-19 vaccination might be detected^{1,2}. However, the information on the event is usually shared in social media and it can cause anxiety for adolescents and their parents.

Respiratory sinus arrhythmia reactivity is a condition with increased heart rate with inspiration and decreased rate during expiration^{2,3}. Such an abnormal ECG pattern in a patient with this

condition is sinus arrhythmia and there might be a non-significant ST segment elevation. When a physician is consulted by a paediatric/adolescent mRNA Covid-19 vaccine recipient with a complaint of dyspnoea or palpitation, this kind of abnormal ECG might be observed. It is necessary to embark on a careful clinical examination and history taking, to rule out anxious states of children. Taking care of the anxiety of parents is also needed. In a case without clear clinical data or suspicious symptoms such as cardiac chest pain, use of cardiac biomarkers such as troponin can help exclude an organic cardiac problem. Finally, it is emphasized that Covid-19 vaccine is safe for adolescents and most cardiac complaints or post vaccination abnormal ECGs are usually the result of anxiety. A good pre-vaccination consultation and reassurance for any post-vaccination complaint for both children and parents are the need of the hour.



ECG example of post Covid-19 vaccination sinus arrhythmia in an adolescent with anxiety

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