

Atrial fibrillation after COVID Vaccine: Case Presentation and Management Strategies

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Introduction

- Coronavirus disease 2019 (COVID-19) vaccines including mRNA-1273 (Moderna) and BNT162b2 (BioNTech, Pfizer) are associated with heart rhythm disorders, myocarditis and pericarditis.
- Atrial fibrillation (AF) usually occurs within the first month after any dose of vaccine.
- We present a case of a young patient who presented with new onset paroxysmal AF after receiving mRNA-1273 vaccine.

Case Presentation

38 ♂ PMH: hypertension and hyperlipidemia CC: Palpitation

Received his first dose of mRNA-1273 vaccine 20 days ago.

ECG: AF with rapid ventricular response.

DCCV within 24 hours of initiation of his AF. TEE: No LAA thrombus. TTE: normal structure and function of the heart. Right and left atria were normal in size.

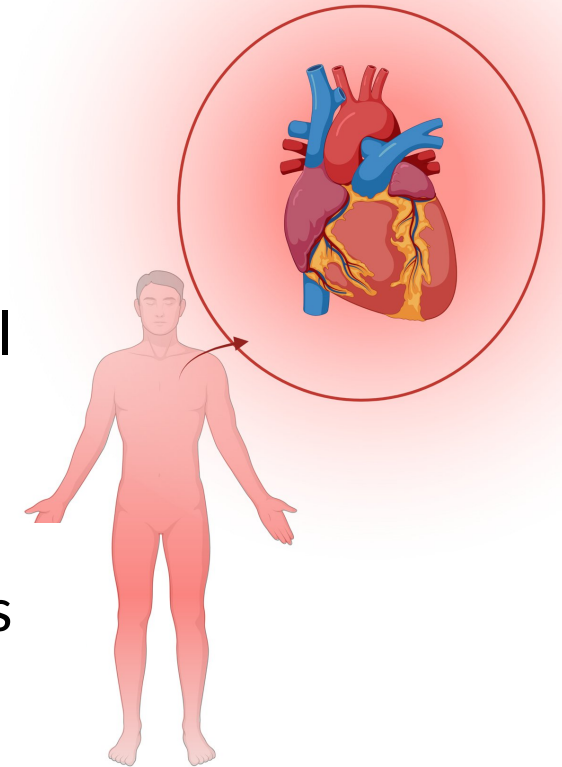
Placed on apixaban after the DCCV. Treadmill exercise test normal (Duke score : 13). 24-hour Holter monitor no evidence of AF.

Apixaban switched to ASA 325mg after a month.

Patient received two doses of the same vaccine 10 and 13 months after the first dose without recurrence of AF.

One year EP clinic follow up no recurrence and symptoms free.

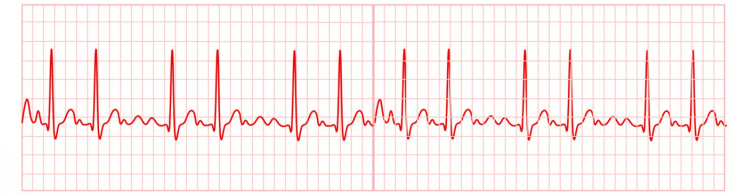
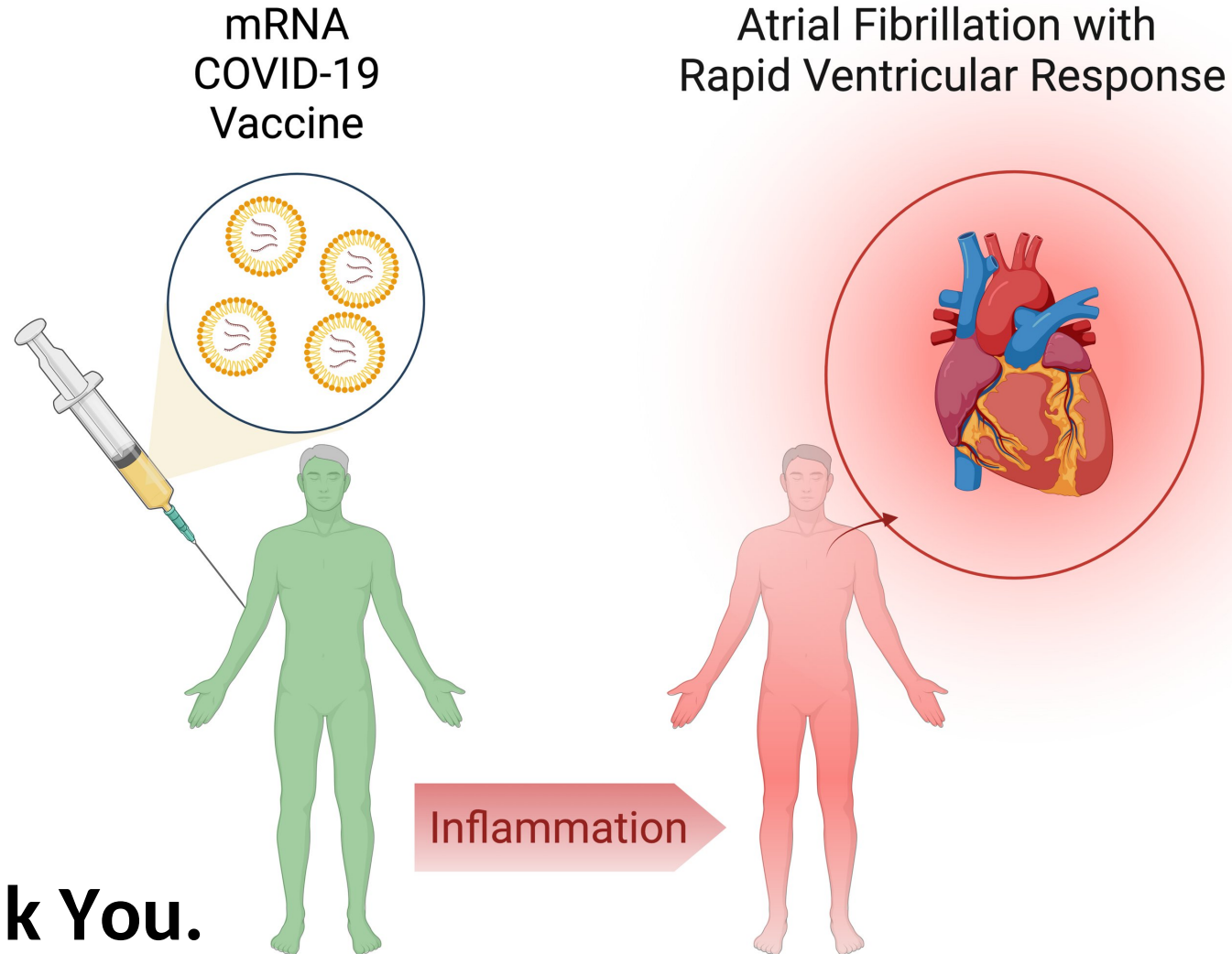
Atrial Fibrillation with
Rapid Ventricular Response





Discussion


- COVID infection and mRNA COVID vaccines both increase the risk of myocarditis, pericarditis and cardiac arrhythmias including AF.
- We propose that vaccine-induced cardiac inflammation triggers AF.
- While this case shows a new-onset paroxysmal AF after vaccine in a healthy individual, we have seen cases of AF recurrence in our patients with prior successful AF ablations.
- Since the post-vaccine inflammation is mainly transient, we do not typically perform ablation in these cases.
- The proposed role of inflammation in AF after COVID vaccine needs to be further studied, especially since the current imaging modalities, including cardiac MRI cannot evaluate for myocarditis in the atria.


Conclusion



Management

  Hospitalized for Direct Current Cardioversion

 Short Term Anticoagulation

 Cardiac Monitor Clinic Follow Up

Thank You.