

TITLE OF CASE

Angioedema and warfarin associated supra therapeutic INR related to second dose of Moderna COVID-19 vaccination.

SUMMARY

Moderna COVID-19 vaccine could be related to severe angioedema after administration of second dose with potential interaction with Warfarin, causing supra therapeutic INR. A close follow-up of INR after receiving the second dose Moderna COVID-19 vaccine is warranted. In this case, Bradykinin-induced angioedema due to Moderna COVID-19 vaccine is likely. Early recognition of signs and symptoms of angioedema after the second dose of Moderna COVID-19 vaccination is recommended to avoid serious complications.

BACKGROUND

COVID 19 vaccinations are new with limited tracking of long-term safety, side effects and interaction with medications. Reports of severe side effects after the first dose of Moderna COVID-19 vaccination have been reported. There have been no reports of severe side effects after the second dose. This case study will add to the literature, a life-threatening angioedema after the second dose of Moderna COVID-19 vaccine and interaction with Warfarin.

CASE PRESENTATION

68-year-old white female, BMI 31 kg/m², with history of remote endometrial cancer and underlying paroxysmal atrial fibrillation on warfarin for the last 5 years. She is compliant and meticulous regarding warfarin interaction with food and medicine. INR has been stable for 5 years, with a recent result of 2.3 two weeks prior to admission. There had been no new medications, she is not an ACE inhibitor or ARB. She has no family history of angioedema. She received her second dose of the Covid-19 Moderna vaccine 5 days prior to admission.

Patient arrived at the Emergency Room with severely swollen lips, tongue and uvula with mucosal bleeding and drooling. She was in moderate respiratory distress, with stridor. She also had vaginal bleeding as well. She had no rash or hypotension.

Significant results included prothrombin time more than 90 and APTT more than 139. ENT was called STAT, the patient proceeded to the OR and was

nasally intubated. INR was reversed appropriately. C1 esterase inhibitor panel, total complement, and tryptase within the normal limit. Patient extubated within 48 hours and discharged home safely. It is suspected that the patient developed a late anaphylactic reaction to the second dose of Moderna COVID-19 vaccination, as well as suspected interaction between Moderna COVID-19 vaccination and warfarin causing severe coagulopathy with severely prolonged prothrombin time.

Clinical point: Close follow-up of INR after receiving Moderna COVID-19 vaccination might be warranted for a patient who is on Warfarin. Although mechanisms are not well known, Bradykinin-induced angioedema to second dose Moderna COVID-19 vaccine is likely in this case. Early recognition is important.

INVESTIGATIONS:

C1 esterase inhibitor panel, total complement, and tryptase are within the normal limit.

DIFFERENTIAL DIAGNOSIS:

Patient has no new medications for the last five years, is not on ACE inhibitor or ARB, has no history nor family history of angioedema and C1 esterase inhibitor panel, total complement, and tryptase are within the normal limit.

The only new exposure is the second dose of Moderna COVID-19 vaccination which makes it likely the immediate culprit in this case.

OUTCOME AND FOLLOW-UP:

Patient discharged safely after 48 hours and continued on the same home meds with recommendation to avoid Moderna COVID-19 Vaccination in the future.

DISCUSSION:

I am not aware of any case report of interaction between Moderna COVID-19 vaccine with Warfarin and very few reported cases of anaphylaxis after the first dose of Moderna COVID-19 vaccine have been reported. As of Jan 19, 2021 there has been 15 confirmed cases of anaphylaxis after receipt of first dose Moderna's vaccine in USA according to the CDC, however, no reported case of angioedema after second dose as far as I know.

LEARNING POINTS/TAKE HOME:

Watch for early angioedema reaction after second dose Moderna COVID-19 vaccination. Monitor INR closely in patients on Warfarin after receiving Moderna COVID-19 Vaccination.