Impact of COVID-19 vaccines on INR

Ashley Green
Advocate Aurora Health, ashley.green@aah.org

Jennifer Martinez
Advocate Aurora Health, jennifer.martinez3@aah.org

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Impact of COVID-19 Vaccines on INR

November 9, 2022
Ashley Green, BSN, RN, MEDSURG-BC and Jennifer Martinez, BSN, RN CEN
Background:

Influenza vaccines = increased INR
COVID-19 associated coagulopathy (Zinellu et al., 2021)

COVID-19 vaccine:

• Can directly or indirectly influence INR (Visser et al., 2021)

• Lotti et al (2021) found no influence on INR & no bleeding/thrombotic complications
Pre-COVID-19 practice

Patient assessment and management algorithm:

- Initiate OR verify (as appropriate) warfarin dose & medication profile. Assess medication adherence.

Does assessment reveal presence of OR changes in interacting medications or other factors (includes but not limited to diet, activity, alcohol, smoking, supplements, health status changes)?

Yes

- Incorporate warfarin management strategies to minimize predicted effects of interaction with medications or other factors. Schedule next visits based upon predicted INR impact.

Contact referring provider as necessary to consider changes in concomitant prescription medications.

Advocate Aurora Healthcare System Ambulatory Anticoagulation Team, 2017
| **ACS AMBULATORY ANTICOAGULATION CLINIC** |
| **COVID VACCINATION ASSESSMENT** |
| **HIGH VITAMIN K FOODS** |

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>ANSWER</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>When were the vaccines administered?</td>
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<tr>
<td>Was the vaccine Moderna/Pfizer/J&amp;J/Other</td>
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<tr>
<td>Did you have bleeding/bruising complications after the vaccine? If yes, did you go to the ER or were hospitalized due to complications?</td>
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<tr>
<td>Did you have symptoms from the vaccine? If yes, what symptoms?</td>
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<tr>
<td>Did you take an increased amount of Tylenol or Ibuprofen?</td>
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<td>Did you take any other medications such as cough medicine, cough drops, etc.?</td>
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<tr>
<td>Did you eat any foods that could increase your INR (ex: black licorice, cranberries, pomegranate, cherries, watermelon, grapefruit)</td>
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<tr>
<td>Did you drink any alcohol?</td>
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<tr>
<td>Did you have any changes in your medications?</td>
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<td>Are you on chronic steroids or antibiotics?</td>
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<td>Do you take amiodarone? If yes, was the dose adjusted recently?</td>
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<td>Have you smoked marijuana?</td>
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<tr>
<td>Do you eat vitamin K foods? If so, did you eat less vitamin K foods this week?</td>
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Patients post COVID-19 vaccination (n=60)

- Increase in INR: 65%
  - n=39

- No Increase in INR: 35%
  - n=21
Moderna Vaccine

• 22/60 total patients (37%)

• Increase in INR noted: 13/22 patients (59%)
Pfizer Vaccine

- 38/60 total patients (63%)
- Increase in INR noted: 22/38 patients (68%)
Self Reported Factors for Increased INR

- Tylenol: 25%
- Steroids/Abx: 21%
- Diet Changes: 12%
- Other Meds: 7%
- Warfarin Dev: 4%
- ETOH/THC: 8%
- No Factors: 23%
Number of Patients that Held Warfarin

Total # of Patients That Held Warfarin: 18/60 (30%)
Post Vaccination Complications

- Bleeding/Brusing symptoms: 9/60 patients (15%)

- No deaths/severe outcomes observed
Takeaways:

1. Closer observations and tracking of INR one week post COVID-19 vaccine
2. Assess for any factors that can increase INR
3. Assess for bleeding/bruising symptoms
4. If INR increased with and without modifiable factor recommend recheck in one week

Limitations of Project:

- Patients discharged from clinic and taken off Warfarin before booster vaccine
- New enrollments to Warfarin and their data and care observed only for booster
- Data was collected observationally and not statistically compared
Questions
References


References


References

