



Revised SBI Recommendations for the Management of Axillary Adenopathy in Patients with Recent COVID-19 Vaccination

Society of Breast Imaging Patient Care and Delivery Committee

Lars Grimm, Ashmitha Srin, Brian Dontchos, Caroline Daly, Catherine Tuite, Emily Sonnenblick, Hannah Milch, Jose Net, Katerina Dodelzon, Roger Yang, Sally Goudreau, Sarah Jacobs, Vandana Dialani, Vidhi Kacharia

In the Winter of 2021, the SBI released guidelines on the management of axillary adenopathy in patients with recent COVID-19 vaccination.(1) Those guidelines coincided with nationwide efforts to vaccinate the United States population. At that time, breast radiologists anecdotally reported a much higher incidence of axillary adenopathy on screening mammography than the baseline of 0.02%-0.04%. Experts suspected the adenopathy was induced by the COVID-19 vaccine, but it was unknown how common adenopathy would be and how long it would last on screening mammography. In this information vacuum, the SBI developed conservative guidelines with the goal of reducing unnecessary workups and biopsies. Practices were encouraged to modify the guidelines based on expertise, local resources, and institutional support.

Since the initial release of the SBI guidelines, multiple position statements, opinion pieces, and single institution retrospective series have been published.(2-6) Breast radiologists have also gained considerable experience diagnosing and managing vaccine induced adenopathy and discussing the findings with patients. Although the initial wave of COVID-19 vaccinations has passed, booster doses will likely be administered for the foreseeable future.

Incidence of adenopathy: The incidence of clinically apparent lymphadenopathy from the Moderna COVID-19 vaccination clinical trials was 1.1%.(7) Retrospective radiology series report a range of 2.4%-35% for axillary adenopathy in women undergoing screening mammography and/or ultrasound.(2, 5) *The incidence of image-detected adenopathy is much greater than clinically detected adenopathy, especially when screening ultrasound is utilized.*

Duration of adenopathy: In the Moderna COVID-19 vaccination trial, clinically apparent adenopathy was reported 2-4 days after vaccination with a median duration of 1-2 days.(7) In the retrospective radiology series, axillary adenopathy was detected as early as one day and as late as 71 days following vaccination.(2, 5) Detailed follow up data is lacking, but adenopathy is reported to persist for up to 43 weeks. *The initial presentation of radiologically detected adenopathy may be later and the duration is much longer than clinically detected adenopathy.*

Breast cancer screening: There are growing concerns that the deficit in breast cancer screening during the Winter/Spring of 2020 has not been recovered and that screening utilization rates have



not normalized. It is too early to calculate the actual impact of this deficit, but modeling studies predict a negative impact on patient morbidity and mortality.(8) Further delays in screening should be avoided.

Revised guidelines for the management of axillary adenopathy in patients with a recent COVID-19 vaccination. These guidelines refer specifically to asymptomatic, average risk women with no breast cancer history and no previously diagnosed malignancy that might involve the axillary lymph nodes such as lymphoma, undergoing screening mammography.

- *For women scheduling a screening mammogram, the SBI no longer recommends delaying screening mammograms around COVID-19 vaccinations.*
 - Previously, consideration was given to scheduling before a first vaccine dose or 4-6 weeks following the second dose of a COVID-19 vaccine.

- *Practices should continue to collect information on COVID-19 vaccination status including the date and side (left vs. right) of vaccination on patient intake forms. To minimize patient anxiety, consider including this introductory statement: Vaccines of all types can result in temporary swelling of the lymph nodes, which is a sign that the body is making antibodies in response to the vaccine as intended.*
 - No change from previous recommendation.

- *For patients who present with unilateral axillary adenopathy on screening mammography, no other suspicious mammographic findings, and a recent* COVID-19 vaccination in the ipsilateral arm, it may be appropriate to give a BI-RADS category 2 (benign) assessment.*
 - Previously, a BI-RADS category 0 assessment on screening mammography was recommended to facilitate further assessment and documentation of medical history, including vaccination status.
 - Practices should establish their own definition for a recent vaccination. The published literature reports that adenopathy may present as early as 1 day and as late as 71 days following vaccination.
 - Practices may wish to add language to their report that, “Axillary adenopathy is presumed related to recent vaccination but might require additional evaluation if



there is no relevant vaccination history or the patient has an underlying known malignancy that could manifest with metastatic adenopathy.

- *For patients undergoing short term follow up (BI-RADS category 3) for presumed vaccine induced adenopathy following appropriate diagnostic work up, a follow up interval of 12 or more weeks is recommended.*
 - Previously, a follow up in 4-12 weeks was recommended.
 - Data on the duration of vaccine induced adenopathy is limited but may persist for up to 43 weeks after vaccination.
- *For patients previously recommended for short term follow up, if axillary adenopathy has improved but is still present, then consider a BI-RADS category 2 assessment (benign) or additional follow up six months after initial presentation (BI-RADS category 3). If axillary adenopathy is unchanged, then consider additional follow up six months after initial presentation (BI-RADS category 3). If axillary adenopathy has increased, then consider lymph node sampling to exclude breast and non-breast malignancy.*
 - Previously, consideration was given to biopsy any persistent axillary adenopathy.

As more information about the incidence and appearance of axillary lymphadenopathy following COVID-19 vaccination becomes available, it may be appropriate to change the duration of follow up or final assessment recommendations. Furthermore, as additional COVID-19 vaccinations are approved for distribution, further imaging recommendations will be incorporated as indicated.

To speak with an SBI spokesperson, please contact Kesha L. Willis at 571-342-0144 or kwillis@sbi-online.org

1. Grimm L, Destounis S, Dogan B, et al. SBI Recommendations for the Management of Axillary Adenopathy in Patients with Recent COVID-19 Vaccination. Available at: <https://www.sbi-online.org/Portals/0/Position%20Statements/2021/SBI-recommendations-for-managing-axillary-adenopathy-post-COVID-vaccination.pdf>. Accessed 2/12/22.
2. Wolfson S, Kim E, Plaunova A, et al. Axillary Adenopathy after COVID-19 Vaccine: No Reason to Delay Screening Mammogram. *Radiology*. 2022:213227.



3. Becker AS, Perez-Johnston R, Chikarmane SA, et al. Multidisciplinary Recommendations Regarding Post-Vaccine Adenopathy and Radiologic Imaging: Radiology Scientific Expert Panel. *Radiology*. 2021; 300(2):E323-E7.
4. Schiaffino S, Pinker K, Magni V, et al. Axillary lymphadenopathy at the time of COVID-19 vaccination: ten recommendations from the European Society of Breast Imaging (EUSOBI). *Insights Imaging*. 2021; 12(1):119.
5. Robinson KA, Maimone S, Gococo-Benore DA, Li Z, Advani PP, Chumsri S. Incidence of Axillary Adenopathy in Breast Imaging After COVID-19 Vaccination. *JAMA oncology*. 2021; 7(9):1395-7.
6. Lehman CD, Lamb LR, D'Alessandro HA. Mitigating the Impact of Coronavirus Disease (COVID-19) Vaccinations on Patients Undergoing Breast Imaging Examinations: A Pragmatic Approach. *AJR Am J Roentgenol*. 2021; 217(3):584-6.
7. Local Reactions, Systemic Reactions, Adverse Events, and Serious Adverse Events: Moderna COVID-19 Vaccine. Available at: <https://www.cdc.gov/vaccines/covid-19/info-by-product/moderna/reactogenicity.html>. Accessed January 16, 2021.
8. Yong JH, Mainprize JG, Yaffe MJ, et al. The impact of episodic screening interruption: COVID-19 and population-based cancer screening in Canada. *J Med Screen*. 2021; 28(2):100-7.