

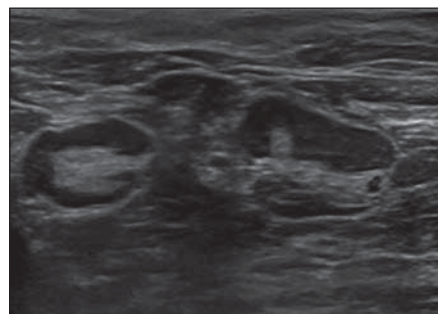
## Unilateral Axillary Lymphadenopathy After Coronavirus Disease (COVID-19) Vaccination

We read with great interest the article by Edmonds and colleagues [1] titled "Management of Unilateral Axillary Lymphadenopathy Detected on Breast MRI in the Era of Coronavirus Disease (COVID-19) Vaccination," which was published online in the *AJR* on February 5, 2021. The authors described an increased incidence of unilateral axillary lymphadenopathy identified on breast MRI in patients who had recently received a coronavirus disease (COVID-19) vaccination.

We also have observed an increased number of requests for mammography and axillary ultrasound for patients presenting with painful and/or swollen lymph nodes who, when questioned, reported recent (range, 1–25 days) ipsilateral deltoid administration of an mRNA vaccine (BNT162b2, Comirnaty, Pfizer-BioNTech). Because the administration of the Moderna vaccine (mRNA-1273, Moderna COVID-19 Vaccine, ModernaTX) started in Italy just 2 days ago, our experience is limited to the administration of the Pfizer-BioNTech vaccine.

As the authors reported [1], we have also noted that the involved lymph nodes were unilateral and ipsilateral to the intramuscular vaccine administration site; located in axillary sites and sometimes also in supraclavicular sites; and showed an increased size, with a discrete cortical thickening and preserved fatty hilum (Figs. 1 and 2). All findings on breast imaging studies of patients with postvaccination unilateral axillary lymphadenopathy were within normal ranges.

We have managed patients with unilateral axillary lymphadenopathy and a recent history of COVID-19 vaccination in a similar way to the one proposed by the authors [1]: we assess these findings as BI-RADS 3 and plan follow-up ultrasound within 1–2 months after the patient has received the second vaccine dose. We avoid using unilateral axillary lymphadenopathy in a recently vaccinated patient as an indication for biopsy and consider these findings as probably benign reactive lymph nodes consequent to the COVID-19 vaccination [2].



**Fig. 1**—60-year-old woman who presented with painful, enlarged left axillary lymph nodes 14 days after injection in left deltoid of first dose of coronavirus disease (COVID-19) vaccine (BNT162b2, Comirnaty, Pfizer-BioNTech). Ultrasound image of left axilla shows group of swollen lymph nodes with cortical thickening.

We consider the authors' suggestion of adding questions regarding the date and side of intramuscular COVID-19 vaccine administration to the form that patients fill out before breast examinations to be very useful: adding this information to the form should provide the radiologist with the information essential for accurate image interpretation.

We thank Edmonds and colleagues [1] for bringing this topic to the general attention and congratulate them for their article and for striving to optimize the management of postvaccination unilateral axillary lymphadenopathy.

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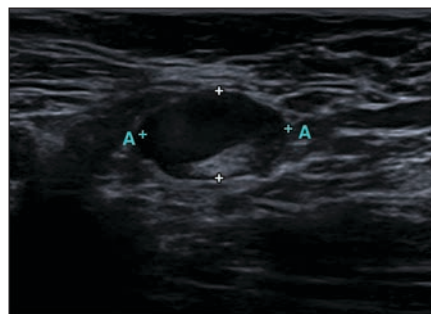
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The authors declare that they have no disclosures relevant to the subject matter of this letter.

## References

1. Edmonds CE, Zuckerman SP, Conant EF. Management of unilateral axillary lymphadenopathy detected on breast MRI in the era of coronavirus disease (COVID-19) vaccination. *AJR* 2021 Feb 5 [published online].
2. Centers for Disease Control and Prevention (CDC) website. Local reactions, systemic reactions, adverse events, and serious adverse events: Pfizer-BioNTech COVID-19 vaccine. [www.cdc.gov/vaccines/covid-19/info-by-product/pfizer/reactogenicity.html](https://www.cdc.gov/vaccines/covid-19/info-by-product/pfizer/reactogenicity.html). Accessed February 16, 2021



**Fig. 2**—45-year-old woman who presented with headache and painful right axillary lymph nodes 3 days after injection in right deltoid of second dose of coronavirus disease (COVID-19) vaccine (BNT162b2, Comirnaty, Pfizer-BioNTech). Ultrasound image of right axilla shows single enlarged lymph node with marked cortical thickening and small hilum with measurements of 17.3 mm (blue calipers, A) and 10.3 mm (white calipers).