



Ipsilateral Axillary Adenopathy from mRNA COVID-19 Vaccines

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As older people are at risk of complications and death from severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) infections, they are an important target group for coronavirus disease 2019 (COVID-19) vaccination.¹⁾ The mRNA vaccines BNT162b2 by Pfizer-BioNTech and mRNA-1273 by Moderna are potent COVID-19 vaccines that have demonstrated high efficacy and immunogenicity in older people.^{1,2)} Older people also tend to have multiple co-morbidities, which increase their risks for adverse events following immunization (AEFI) and complicate the interpretation of AEFI symptoms. Thus, post-marketing active vaccine safety surveillance is important in this population to monitor for evolving and long-term adverse events.³⁾

An AEFI that requires recognition by geriatricians is axillary adenopathy, particularly after the administration of mRNA vaccines. The results of a phase 3 trial showed that ipsilateral axillary adenopathy occurred in 11.6% of recipients of the first dose of the Moderna vaccine, which increased to 16.0% after the second dose in those aged 18–64 years.⁴⁾ While the Pfizer-BioNTech vaccine study did not solicit adenopathy as an adverse event, unsolicited reports of adenopathy were significantly higher in the vaccine group than in the placebo group (64 vs. 6).⁵⁾ Moreover, while adenopathy was reported within 2–4 days for both mRNA vaccines, the average duration was 1–2 days for Moderna vaccine recipients compared to 10 days for Pfizer-BioNTech vaccine recipients.^{4,6)}

A systematic review of adenopathy occurring after COVID-19 vaccination reported incidence rates of 44.1%, 25%, and 1.5% for the Pfizer-BioNTech, Moderna, and Oxford-AstraZeneca vaccines, respectively. The median elapsed times for the development of adenopathy were 12 and 5 days following the first and second doses, respectively, and persisted for up to 4 weeks post-vaccination.⁷⁾ The higher incidence of mRNA vaccine-associated adenopathy may be due to a higher immunogenic response compared to those for the other COVID-19 vaccine platforms. A case series of ipsilateral axillary swelling or adenopathy after COVID-19 vaccinations based on symptoms and physical examination found that

these symptoms closely mimicked those of metastasis and lasted for up to 6 weeks. However, lymph node biopsies confirmed vaccination-related reactive lymphadenopathy.⁸⁾

Patients presenting with unilateral axillary adenopathy should be evaluated for malignancy, particularly breast cancer. Adenopathy may also be incidentally identified on routine imaging studies, such as computed tomography of the thorax or breast magnetic resonance image. Clinicians should enquire regarding recent COVID-19 vaccination, as mRNA vaccines may induce ipsilateral axillary lymph node hyperplasia. Documentation of vaccine administration, such as date and location site, should also be reviewed, as ipsilateral lymphadenopathy in the setting of recent (within 6 weeks) vaccination may indicate a benign entity.⁹⁾ For patients with suspected vaccine-associated adenopathy and normal breast imaging, clinicians should consider watchful waiting, with a follow-up ultrasound to ensure resolution of lymphadenopathy performed 8 weeks after the second vaccine dose. This is a way to avoid unnecessary axillary lymph node biopsy.^{6,10)} However, in patients with a family history of breast cancer or a suspicion of malignancy such as breast cancer or lymphoma, lymph node biopsies should still be performed.¹¹⁾

If possible, routine imaging studies should be performed before vaccination. However, in the setting of the current pandemic, COVID-19 vaccination should not be delayed. Imaging studies should be performed without delay for urgent indications such as acute symptoms or the need for urgent treatment planning, but these procedures may be postponed for other indications until at least 6 weeks after the second vaccine dose. Patients with primary cancer, such as breast cancer or upper limb melanoma, should ideally have both vaccine doses administered on the contralateral side.¹²⁾

In conclusion, geriatricians should be aware that ipsilateral axillary adenopathy may represent an AEFI, particularly after the administration of mRNA COVID-19 vaccines. This condition usually occurs several days after vaccination and may last for up to 6

weeks. Expectant management may be appropriate to ensure resolution, rather than referring to further imaging studies or lymph node biopsies.

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CONFLICT OF INTEREST

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