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Editorial Comment: Nodal and Deltoid Uptake on FDG and ¹¹C-Choline PET/CT Imaging*Daniel T. Myers, MD*<https://doi.org/10.2214/AJR.21.26247>

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Editorial Comment: Nodal and Deltoid Uptake on FDG and ^{11}C -Choline PET/CT Imaging

The authors provide a timely assessment of the frequency of COVID-19 vaccination related nodal and deltoid muscle uptake on PET/CT imaging. In recent months, increased size and FDG activity involving axillary, supraclavicular, and cervical lymph nodes on PET/CT scans have been increasingly reported [1]. This finding may heighten patient anxiety and cause unnecessary workup and potential biopsy in oncologic patients. This study highlights findings that can increase the interpreting physician's confidence in determining that axillary nodal uptake is likely a post-vaccination effect rather than neoplastic. Examples of helpful observations that support a post-vaccination effect include presence of ipsilateral deltoid muscle uptake as well as lack of pathologic enlargement of the axillary lymph node. Additionally, through the inclusion in the series of patients imaged using ^{11}C -choline, the article demonstrates that post-vaccination axillary nodal uptake is not purely a phenomenon associated with FDG administration, but can be seen with other PET imaging agents.

The single case of ipsilateral supraclavicular nodal uptake observed in this series involved a patient on immunotherapy. This is a tantalizing piece of information. The authors speculate that the heightened immune response of patients on immunotherapy may contribute to lymphadenopathy. Indeed, the impact of immunotherapy on effects from vaccination merits future research.

A problematic issue for patients and physicians relates to optimal timing of the PET/CT scan in the recently vaccinated patient. This decision needs to balance clinical needs with minimization of potential false positive results. Expert recommendations on this topic vary, but delaying the PET/CT scan anywhere from 2-6 weeks has been suggested [1,2]. As no significant abnormal axillary nodal uptake was observed in patients beyond 24 days post vaccination, the authors suggest a time window of four weeks is likely adequate. Nonetheless, positive axillary nodal uptake up to ten weeks post vaccination has been reported [3].

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