

# DOTATATE Uptake in an Axillary Lymph Node After COVID-19 Vaccination

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**Abstract:** A 58-year-old man underwent DOTATATE PET/CT scan for follow-up of pulmonary neuroendocrine tumor after resection and adjuvant chemotherapy. On screening paperwork, the patient indicated having received the Johnson & Johnson/Janssen COVID-19 vaccine (Janssen Biotech, Inc) 1 day previously, administered in the right deltoid muscle. Reactive changes in regional lymph nodes is a known response for all 3 currently Food and Drug Administration–approved COVID-19 vaccines. Recent published data have demonstrated FDG PET-avid axillary lymphadenopathy subsequent to COVID-19 vaccination, and included here is a report of DOTATATE PET-avid axillary lymph node after injection of the Johnson & Johnson COVID-19 vaccine.

**Key Words:** DOTATATE, PET, COVID-19, lymphadenopathy

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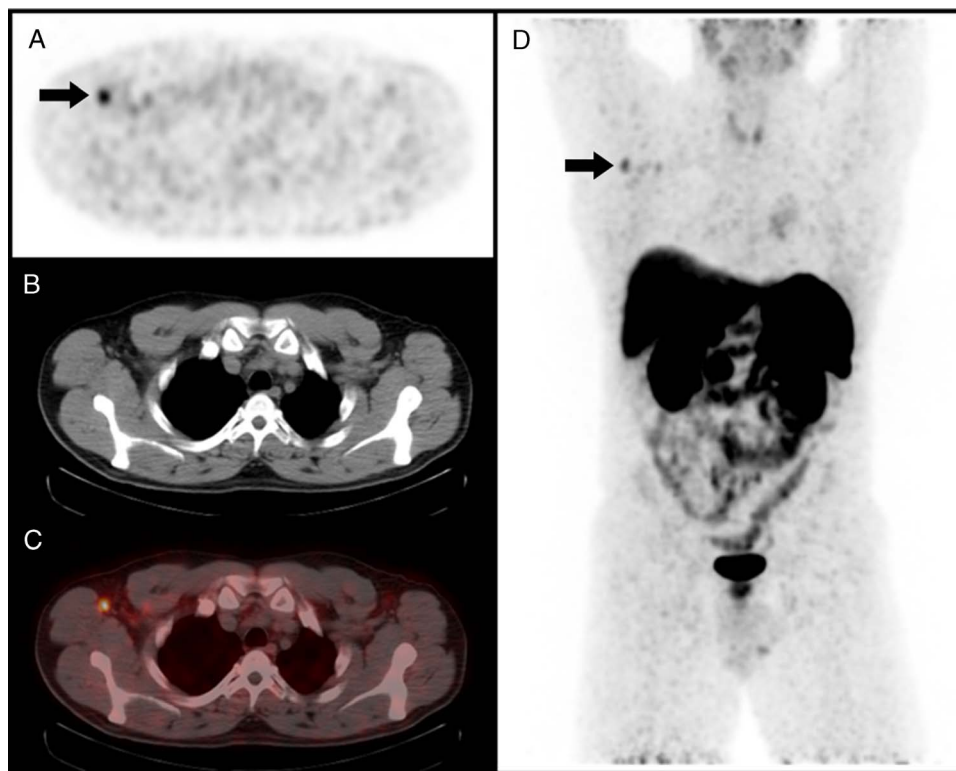
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**FIGURE 1.** A 54-year-old man with pulmonary neuroendocrine tumor underwent surgical resection and adjuvant chemotherapy. A follow-up PET/CT scan using  $^{68}\text{Ga}$ -DOTATATE showed focal uptake in the right axilla (A, axial PET; B, axial CT; C, axial fused; and D, coronal PET), localizing to a nonenlarged lymph node on CT (arrows). DOTATATE PET/CT is an imaging technique frequently used for detecting and characterizing neuroendocrine tumors. DOTATATE is a somatostatin analog that binds with great avidity to somatostatin receptors, allowing highly accurate whole-body imaging of tumors expressing somatostatin receptors.<sup>1,2</sup> DOTATATE uptake secondary to inflammatory processes is a known imaging pitfall, with inflammatory uptake usually seen in the postradiation therapy setting.<sup>2</sup> Inflammatory uptake is frequently low or very low grade. It is important to recognize that nonspecific, inflammatory uptake can also occur with non-FDG radiotracers including DOTATATE.<sup>3</sup> New-onset unilateral and, occasionally, bilateral axillary lymphadenopathy is a commonly reported adverse effect of COVID-19 vaccination.<sup>4-7</sup> Recent published data have demonstrated FDG PET-avid axillary lymphadenopathy subsequent to COVID-19 vaccination,<sup>3,8</sup> and this report demonstrates similar findings with DOTATATE. This potential association needs to be recognized by the radiologist, as it may propose a diagnostic dilemma in the workup of metastatic disease. Awareness of each patient's vaccination schedule is an important factor when scheduling imaging for cancer screening or metastatic disease workup.