

PET Imaging Performed Immediately After COVID 19 Vaccination: What A Radiologist Should Know

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1. Editorial

An interesting article titled “Frequency and Characteristics of Nodal and Deltoid FDG and 11-C Choline uptake on PET imaging performed after COVID-19 vaccination” was recently published in American Journal of Roentgenology. In this Editorial, I will like to discuss important pertinent findings of this study. 67 patients were recruited (66 had undergone PET/CT and 1 had undergone PET/MRI; FDG in 54 and 11-C Choline in 13) in this study. Out of 67, 44 had received first dose and 23 had received second dose of COVID 19 vaccination (Moderna vaccine in 15, Pfizer-BioNTech vaccine in 52). All 67 patients had undergone PET prior to COVID 19 vaccination, and PET median 13 days (if received one dose) and 10 days (if received two doses) respectively after COVID 19 vaccination. None of these patient had axillary/supraclavicular lymph node, prior to COVID 19 Vaccination. Post COVID vaccination, one patient had ipsilateral supraclavicular lymph node uptake, 10.4 % patients had positive axillary lymph node uptake and 14.5% patients had ipsilateral deltoid uptake with documented injection laterality. Five of seven patients had ipsilateral axillary lymph node uptake, with documented injection laterality. An interesting fact in this study was that positive axillary lymph node uptake was more commonly observed with 11-C Choline (23.1% of examination), as compared to FDG (7.4% of examination). Inter-reader agreement for SUV measurement ranged from 0.600 to 0.988.

This study highlights important point that Radiologists and other Clinicians should be aware of imaging findings to be expected, after PET is done within few days after COVID 19 vaccination.

This will avoid unnecessary biopsy and other investigations. Important areas of SUV uptake are deltoid muscle at site of injection, ipsilateral axillary lymph node and rarely ipsilateral supraclavicular lymph node. I will like to specially thank patients who volunteered to participate in this study, specially when study protocol required each patient to undergo PET twice, one before and one after COVID 19 vaccination. I thank authors of this article for conducting this timely study, which has provided important insight into imaging aspects after COVID 19 vaccination.