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Silicone-induced lymphadenopathy mimicking metastatic lung cancer

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A 66-year-old smoking patient with a recent diagnosis of stage III lung cancer (Fig. 1A) underwent a PET/CT for staging purposes. The patient had a remote history of right breast cancer with simultaneous reconstruction with a silicone implant; however, this implant was ultimately removed due to rupture (Fig. 1B). PET/CT showed a hypermetabolic enlarged right internal mammary lymph node (Fig. 1C, 1D), concerning for stage IV lung cancer. Histological analysis of a CT-guided core needle biopsy of the internal mammary adenopathy (Fig. 1E) demonstrated a silicone-induced lymphadenopathy (SIL) and ruled out cancer cells (Fig. 1F). SIL is a rare complication associated with silicone breast implants that is usually asymptomatic and found incidentally on imaging studies. Silicone gel from ruptured implants may migrate into locoregional lymph nodes and induce inflammation. More importantly, SIL can mimic metastatic lymph nodes on imaging in cancer patients.[1,2] Physicians should have a high index of suspicion for SIL in patients carrying breast implants, particularly in patients in

whom implants were removed (as in our case). The prognostic implication in our patient was paramount, since the confirmation of SIL ruled out a stage IV lung cancer.

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References

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Figure legend

Figure 1. A) Thoracic axial CT image (lung window) shows a right upper lobe mass (asterisk). B) Thoracic axial CT image (mediastinal window) performed 8 years earlier shows a ruptured right breast implant (arrows). C) and D) Axial (C) and coronal (D) chest fused PET/CT images show an enlarged FDG-avid right internal mammary lymph node (arrow); note an enlarged subcarinal lymph node (asterisk). E) Thoracic axial CT maximum intensity projection image shows the core needle biopsy procedure targeting the right internal mammary lymphadenopathy (arrows). F) Histological examination (hematoxylin-eosin staining; H&E, x 20) demonstrated silicone vacuoles (asterisks) and signs of foreign-body giant-cell reaction.