False-Positive Axillary Lymph Node on F-18 FDG PET/CT due to Moxibustion Therapy

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A 30-year-old female was diagnosed with papillary thyroid cancer and underwent total thyroidectomy and high-dose radioiodine ablation. F-18 fluorodeoxyglucose (FDG) positron emission tomography/computed tomography (PET/CT) for recurrence detection of thyroid carcinoma was performed at 3 years after total thyroidectomy (Fig. 1).

Moxibustion is a traditional Chinese medicine therapy using moxa or the mugwort herb. Moxibustion is the burning of a small, thimble-sized, smoldering plug of dried leaves such as moxa or mugwort on the skin at an acupuncture point. Acupuncture and moxibustion induce

hyperemia and a local inflammatory reaction. Complications associated with moxibustion such as skin burns or infection of the site have been reported previously [1]. False-positive FDG uptake in PET may result from inflammation, infection, and variations in physiological uptake [2, 3]. In the present case, the hypermetabolic axillary lymph node disappeared without any treatment. Well-known causes of false-positive FDG uptake in axillary lymph nodes such as arthritis of the upper extremity, extravasation of injected FDG, and vaccination were not found [4, 5]. Thus, left axillary lymph node uptake was

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Fig. 1 (a) A projection image demonstrated a focal hypermetabolic lesion in the left axillary region (blue arrow). (b) PET and PET/CT fusion images demonstrated a hypermetabolic lymph node in the left axillary region (maximal SUV 2.5), suggesting lymph node metastasis (blue arrows). At that time, no palpable lymph node was detected on physical examination of the neck, and the serum thyroglobulin level was within normal range (<1 ng/ml). She had a history of alternative medical treatment with moxa on her left upper back several days before because of left shoulder pain. After 1 year, a follow-up FDG PET/CT was performed. During the 1-year follow-up, she denied any history of cytotoxic therapy or radiation treatment. (c) A projection image 1 year after follow-up F-18 FDG PET/CT demonstrated no abnormal FDG uptake in the left axillary region. (d) The hypermetabolic lymph node was also not observed on PET and PET/CT fusion images of follow-up F-18 FDG PET/CT

considered false-positive uptake due to the local inflammatory condition associated with moxibustion.

Conflict of Interest The authors declare that they have no conflict of interest.

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