

Inflammation after catheterisation mimicking tumour with squamous cell lung carcinoma in positron emission tomography

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Accepted 22 January 2023

DESCRIPTION

A woman in her 70s with a medical history of hypertrophic cardiomyopathy (HCM) presented with chest pain. She was diagnosed with HCM 15 years ago after the detection of ECG abnormality of the medical check-up, but she was stable and did not take any medical follow-up including chest X-ray. Her mother had HCM, but no other family's cardiac or cancer history were noted. Laboratory findings revealed elevated troponin level, and ECG showed a new complete left bundle branch block, which were suggestive of acute coronary syndrome. In addition, chest X-ray showed the cavity lesion in the right lower lung field. Transthoracic echocardiography showed myocardial hypertrophy with preserved ejection fraction, but no left ventricular outflow tract obstruction or wall motion abnormality were noted. We performed coronary angiography (CAG) by percutaneous right brachial artery approach with 5-French catheter, which revealed no significant stenoses but positive with acetylcholine spasm provocation test. The catheter was

removed after the procedure, and no complication of the puncture lesion was noted. She was diagnosed with coronary spasm angina, and nitroglycerin and Ca-blocker relieved her symptom. After the cardiac investigations, chest CT revealed right cavity lesion (figure 1A). Mycobacterial culture was negative, but sputum cytology was positive. ¹⁸F-fluorodeoxyglucose positron emission tomography-CT (FDG-PET/CT) 2 weeks after the CAG procedure showed abnormal uptakes in the right lower lobe as well as the right elbow (figure 1B). She finally underwent right lower lobectomy, of which pathological findings demonstrated squamous cell carcinoma, and the postoperative course was uneventful.

The abnormal uptake of the right elbow in FDG-PET/CT mimics tumour, but we consider it was inflammation after the right brachial artery puncture of the CAG. It is reported sites of insertion of catheters sometimes show increased FDG activity from inflammation of the skin and the surrounding tissues.^{1 2} Benign changes such as wound healing, hyperthyroidism and Paget's

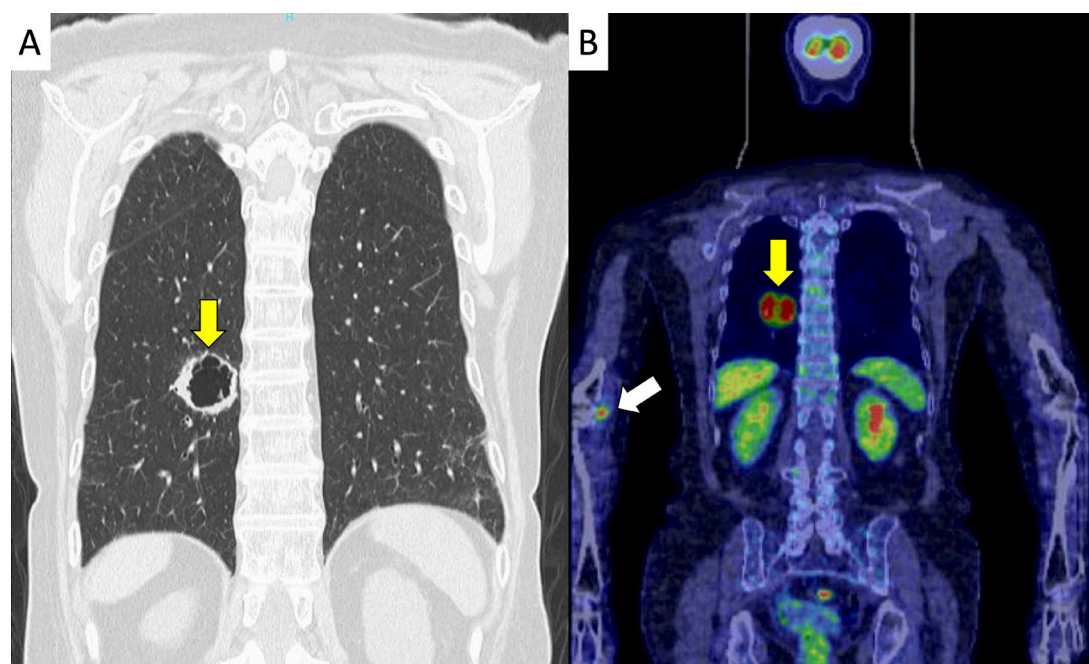


Figure 1 (A) Chest CT revealing right cavity lesion (arrow). (B) ¹⁸F-fluorodeoxyglucose positron emission tomography-CT 2 weeks after the coronary angiography showing abnormal uptakes in the right lower lobe of the lung (yellow arrow) and in the right elbow (white arrow).



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To cite: Ono R, Iwahana T, Daimon M, et al. *BMJ Case Rep* 2023;**16**:e254072. doi:10.1136/bcr-2022-254072

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disease of bone may cause uptake that occasionally mimics that of malignancy.³ Physician should know that catheterisation could also cause abnormal uptake in FDG-PET/CT even 2 weeks after the procedure.

Learning points

- Sites of insertion of catheters sometimes show increased ¹⁸F-fluorodeoxyglucose (FDG) activity from inflammation of the skin and the surrounding tissues.
- Catheterisation could cause abnormal uptake in FDG positron emission tomography even 2 weeks after the procedure.

Acknowledgements None.

Contributors RO, TI, HK, KA and KA contributed to patient management, conception and design of case report and drafting the article. MD and YK contributed to interpretation of data and revising the article critically. All authors gave final approval of the article and have agreed to be accountable for all aspects of the work.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Consent obtained directly from patient(s)

Provenance and peer review Not commissioned; externally peer reviewed.

Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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