The diagnostic usefulness of ^{18}F -fluorodeoxyglucose-positron emission tomography/CT in SAPHO syndrome

Ho Namkoong, Makoto Ishii, Sadatomo Tasaka, Tomoko Betsuyaku

Division of Pulmonary Medicine, Department of Medicine, Keio University School of Medicine, Tokyo, Japan

Correspondence to

Dr Makoto Ishii,
ishii@z6.keio.jp

Accepted 12 February 2015

DESCRIPTION

A 62-year-old man was referred to the outpatient cardiology service of our hospital with a 3-month history of right chest pain. Cardiac enzymes, including the CK-MB isoform of creatine kinase

and troponin, ECG and chest radiography examinations were normal. Laboratory examinations were normal, except for elevated C reactive protein level (13.45 mg/dL). Findings of contrast-enhanced thoracic CT were normal (figure 1A–D), as were those

Figure 1 (A) Contrast-enhanced chest CT in the sagittal plane showing normal findings. (B–D) Contrast-enhanced chest CT in the transverse planes showing normal findings. (E) ^{18}F -fluorodeoxyglucose-positron emission tomography/CT (FDG-PET/CT) in the sagittal plane showing intense accumulation in and around the left sternoclavicular joint and the sternum. (F–H) FDG-PET/CT in the transverse planes showing intense accumulation in and around the left sternoclavicular joint and the sternum.

CrossMark

To cite: Namkoong H, Ishii M, Tasaka S, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2015-209394

Learning points

- ▶ A patient with SAPHO (synovitis, acne, pustulosis, hyperostosis, osteitis) syndrome may be referred to the cardiology service for chronic chest pain that may initially be presumed to be related to heart disease.
- ▶ SAPHO syndrome is often not diagnosed even after contrast-enhanced thoracic CT and laboratory tests.
- ▶ ^{18}F -fluorodeoxyglucose-positron emission tomography/CT may be a useful imaging modality for the diagnosis of SAPHO syndrome.

of ultrasonography of the sternum and the xiphoid process. To further investigate the cause of chest pain, the patient was referred to our pulmonary department. Since inflammatory lesions of the sternum, which could not be detected by CT, were suspected, ^{18}F -fluorodeoxyglucose (FDG)-positron emission tomography/CT (PET/CT) was performed, which demonstrated intense accumulation in and around the left sternoclavicular joint and the sternum (maximum standardised uptake values: 4.0) (figure 1E–H). Although there were no cutaneous lesions, the patient was diagnosed with synovitis, acne, pustulosis, hyperostosis, osteitis (SAPHO) syndrome based on clinical

findings, including the FDG-PET/CT results. After beginning treatment with non-steroidal anti-inflammatory drugs, his chest pain disappeared completely, and the C reactive protein level normalised. SAPHO syndrome is characterised by synovitis, acne, pustulosis, hyperostosis and osteomyelitis; it was first described in 1987.¹ Although SAPHO syndrome is difficult to diagnose, some case reports have shown the usefulness of FDG/PET-CT for early-stage diagnosis, as in the present case.² This case is clinically important because the patient was eventually diagnosed as having SAPHO syndrome by FDG/PET-CT during investigation for chest pain originally presumed to result from heart disease.

Contributors HN designed the study. HN and MI drafted the manuscript. ST and TB reviewed and supervised the manuscript.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Chamot AM, Benhamou CL, Kahn MF, *et al.* Acne-pustulosis-hyperostosis-osteitis syndrome. Results of a national survey. 85 Cases. *Rev Rhum Mal Osteoartic* 1987;54:187–96. [in French].
- 2 Patel CN, Smith JT, Rankine JJ, *et al.* F-18 FDG PET/CT can help differentiate SAPHO syndrome from suspected metastatic bone disease. *Clin Nucl Med* 2009;34:254–7.

Copyright 2015 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow