

SAPHO Syndrome Complicated by Myocardial Infarction

Abstract

SAPHO (synovitis, acne, pustulosis, hyperostosis, and osteitis) syndrome occasionally has rare cases of heart involvement. There is a case of a male patient with SAPHO syndrome complicated by myocardial infarction (MI), which discovered that myocardial infarction is also influenced by smoking and alcohol consumption. This case provided a reference for the clinical diagnosis and treatment of SAPHO syndrome and myocardial infarction.

Keywords

SAPHO syndrome • Myocardial infarction • Cardiac involvement

Key messages:

The SAPHO syndrome accompanied by myocardial infarction, provides a reference for clinical diagnosis.

SAPHO (synovitis, acne, pustulosis, hyperostosis, and osteitis) syndrome is a rare chronic inflammatory disease involving bone, joints, and skin. It shares some characteristics with other diseases such as spinal arthritis [1], which causes manifestations of involvement other than joints, including some problems of kidneys, and intestinal tract, but occasionally rare cases of heart involvement. Herein, we present a case of a male patient with SAPHO syndrome complicated by myocardial infarction (MI).

This case report details the clinical presentation of a 41-year-old male with a three-year history of hypertension and SAPHO syndrome (Synovitis, Acne, Pustulosis, Hyperostosis, and Osteitis). In 2019, the patient presented with chest wall pain and palmoplantar pustulosis (Figure 1A and 1B). Whole-body bone scintigraphy via technetium 99m-methyl diphosphonate (99mTc-MDP) revealed increased radionuclide uptake in the bilateral first thoracic and costal joints (Figure 1C). Following nonsteroidal

Case Report

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medication, the patient experienced pain relief. In June 2023, the patient developed chest pain after alcohol consumption, lasting for two hours with relief upon positional change, accompanied by profuse sweating, nausea, and vomiting.

Diagnostic assessments included electrocardiographic findings of ST-segment elevation in the inferior leads. Cardiopulmonary function evaluations indicated elevated levels of creatine kinase-MB, troponin I, and myoglobin, leading to a diagnosis of acute inferior myocardial infarction. Additionally, the patient exhibited persistently high levels of sensitive C-reactive protein (3.74 mg/l) and an erythrocyte sedimentation rate (ESR) of 21 mm/h on multiple occasions. Coronary angiography and angioplasty were performed, followed by adalimumab treatment, resulting in myocardial infarction resolution and pain relief. Coronary angiography revealed a stenosis of the left coronary artery (Figure 1D), which became normal after the placement of the coronary stent (Figure 1E、F).

Followed by adalimumab treatment, myocardial infarction resolution, and pain relief.

SAPHO syndrome is characterized as a chronic inflammatory ailment, to our knowledge. We believe that the patient's MI may be affected by SAPHO syndrome associated with ankylosing spondylitis and psoriasis. Studies suggest that compared with the normal, patients with ankylosing spondylitis and psoriasis have a higher risk of angiocardopathy [2,3]. SAPHO syndrome may conduct PSTPIP2 inflammasome [4] which induces the immune system defect and can increase the level of inflammatory factors such as IL-8, IL-18, and TNF- α [5], leading to an increase in the risk of cardiovascular diseases. However, SAPHO syndrome may increase cardiovascular risk is not appreciated, and there are few case reports of cardiac involvement, except for one case of heart failure. More importantly, the inflammation triggered after MI may increase the risk of the SAPHO syndrome, causing severe pain, whereas the SAPHO may increase the risk of cardiac involvement.

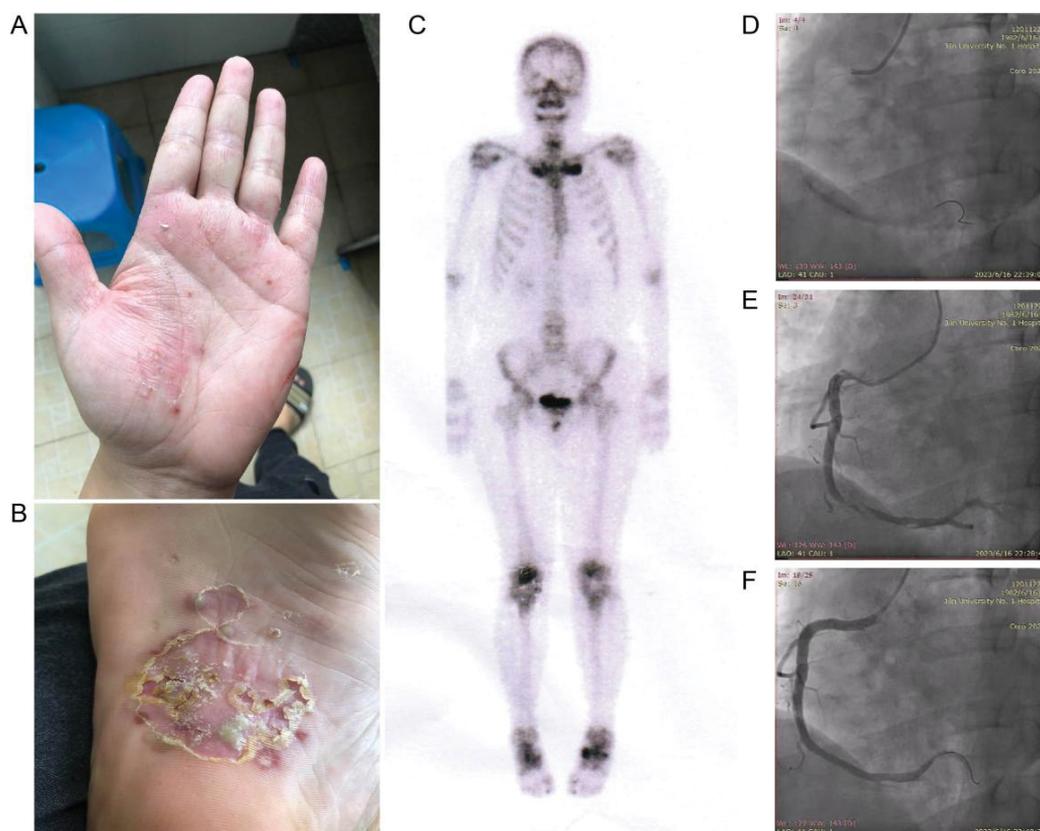


Figure 1. Symptoms of the SAPHO and inspection result. (A) Palm presented herpes. (B) foot presented herpes. (C) 99Tc-MDP whole-body bone scintigraphy demonstrated lesions in the bilateral first thoracic and costal joints. (D)(E)(F) Preoperative and postoperative left coronary angiography images.

The pathogenesis of SAPHO syndrome remains unclear, and some habits may have an impact on the disease. Presently, smoking and alcohol consumption may lead to the deterioration of SAPHO syndrome, and cause the recurrence of the rash [6]. Moreover, we find that myocardial infarction is also influenced by smoking and alcohol consumption [7]. In conclusion, we consider that when a patient presents SAPHO syndrome, habits like smoking and alcohol consumption which increase the likelihood of MI should be avoided, and biological agents play an important role in preventing from occurring cardiovascular diseases.

Authors contributions

All authors have made a substantial contribution to the conception and design, or the acquisition of data, or the analysis and interpretation of data, as well as to the drafting or critical revision of the manuscript, and accept public responsibility for portions of the content.

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Conflict of interest statement

The authors declare they have no conflicts of interest.

Data availability statement

The datasets analyzed for this study are available from the corresponding author Dr. Chen Li (casio1981@163.com) upon reasonable request.

Patient consent statement

All the patients have signed the written informed consent.

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