

# A not so 'sweet' cause of fevers, cough and chest pain

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## Introduction

During what seems like endless medical admissions, it is important to be vigilant and look out for any disease 'mimickers'. We present an interesting and rare case of myocarditis and systemic inflammation secondary to Sweet's syndrome.

## Case presentation

Our patient was a 52-year-old woman who presented to the emergency department with a productive cough, shortness of breath and pyrexia. Accompanying this were new onset and multiple erythematous, pustular and painful lesions, predominately covering her upper and lower limbs. Preliminary investigations showed markedly elevated inflammatory markers with C-reactive protein (CRP) of 366 mg/L and erythrocyte sedimentation rate (ESR) of 127 mm/hour. She was admitted and treated with intravenous antibiotics for a presumed lower respiratory tract infection, with modest improvement in her inflammatory markers and clinically. Her admission was later complicated with new complaints of pleuritic chest pain, accompanied by elevated troponin levels and global concave ST elevation on electrocardiography, which was confirmed as acute diffuse myocarditis on cardiac magnetic resonance imaging.

A dermatology opinion was sought as the skin rash worsened. Sweet's syndrome was clinically suspected and later confirmed on skin biopsy, showing the classical histopathological findings of heavy neutrophil presence within the dermis. She was commenced on high-dose oral corticosteroids and quickly began to show signs of improvement. After a few days, there was complete resolution of cardiac symptoms and temperature, and dramatic improvement to her skin rash and inflammatory markers. Corticosteroids were slowly weaned with no rebound symptoms. She was thoroughly investigated for potential triggers of Sweet's syndrome including autoimmune, vasculitic and infective screen, as well as computed tomography of the chest, abdomen and pelvis, which were all unremarkable. Investigations did, however, reveal an elevated antistreptolysin O titre (ASOT) at 400 U/mL. She was, therefore, diagnosed with Sweet's syndrome, triggered by a streptococcal respiratory tract infection. Following completion of the course of oral steroids, she made a complete recovery, and follow-up positron emission tomography – CT did not demonstrate any areas of inflammation.

## Discussion

Sweet's syndrome, also known as acute febrile neutrophilic dermatosis, is an uncommon skin condition that consists of pyrexia and acute onset, painful and inflamed skin lesions. It is also often accompanied by other systemic features, where it is best regarded as a systemic inflammatory response. This response may be secondary to various triggers that include respiratory tract infections, autoimmune and inflammatory conditions, haematological malignancies, and drugs to name a few. In some cases, however, it may be idiopathic. Treatment with systemic steroids helps improve the symptoms quickly, but an underlying cause needs to be considered and treated.<sup>1,2</sup>

## Conclusion

From this rare cause of myocarditis and systemic upset, we propose that Sweet's syndrome should be considered in the differential of any patient presenting acutely with pyrexia and painful skin rash not responding to standard treatments, particularly if there is systemic involvement. Following a multidisciplinary team approach, this patient was diagnosed and treated promptly resulting in complete resolution in her cutaneous, respiratory and cardiac symptoms. ■

## References

- 1 Cohen PR. Sweet's syndrome—a comprehensive review of an acute febrile neutrophilic dermatosis. *Orphanet J Rare Dis* 2007;2:34.
- 2 Heath MS, Ortega-Loayza AG. Insights into the pathogenesis of Sweet's syndrome. *Front Immunol* 2019;10:414.

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