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lesson of the month (1)

Vasculitic rash: do not jump to conclusions

A 57-year-old man presented with a vasculitic leg rash, weight loss and evidence of blood and protein in the urine. He was initially thought to have Henoch–Schönlein purpura but was eventually diagnosed with bacterial endocarditis.

Lesson

A 57-year-old, previously healthy man presented with a two-month history of fatigue, weight loss and a dense rash in his legs. He had suffered two episodes of loose stools in the preceding two weeks. Initial clinical evaluation revealed mild pyrexia, borderline raised inflammatory markers, normocytic anaemia and a urine dipstick positive for protein and blood. The rash was present on both legs, was dense in distribution and seemed to be of vasculitic aetiology (Fig 1). A 'diastolic murmur' was recorded in the admission clerking, but the cardiovascular and respiratory examination were otherwise noted to be unremarkable. The electrocardiogram and chest radiograph were normal. Henoch–Schönlein purpura (HSP) was the working diagnosis from the post-take ward round given the rash and dipstick findings. The heart murmur was not investigated further at that point. Over the next few days, levels of autoantibodies, immunoglobulin and complement were found to be within the normal ranges. Biopsy of the skin lesion revealed leukocytoclastic vasculitis. Blood cultures in the meantime grew *Enterococcus faecalis*, and attention was turned towards the diastolic murmur,

Fig 1. Leukocytoclastic vasculitis.

Arun Natarajan, ST7 cardiology; **Dipesh Hindocha,** FY2; **Narinder Kular,** ST2; **Sarah Fergey,** chief echocardiographer; and **John R Davies,** consultant cardiologist

Department of Cardiology, Essex Cardiothoracic Centre, Basildon

Fig 2. Transoesophageal echocardiogram showing a large vegetation on the non-coronary cusp of the aortic valve (arrow).

which was noted to be prominent. The possibility of endocarditis then entered the team's diagnostic purview.

Transoesophageal echocardiography demonstrated a large vegetation on the aortic valve (Fig 2, arrow) and severe regurgitation. The patient was started on intravenous high-dose amoxicillin and gentamicin. This failed to produce improvement, and, within days, the patient developed pulmonary oedema, which indicated cardiac compromise. He was transferred to the regional cardiothoracic centre, where urgent valve replacement was performed. The patient was noted to be well six weeks after surgery. The rash had also almost completely disappeared by then.

Discussion

Subacute bacterial endocarditis can present insidiously, with seemingly non-specific symptoms. Clinical examination is crucial and can reveal low-grade fever, heart murmurs, anaemia and signs of congestive heart failure. A variety of immunological and embolic manifestations can also be seen but are relatively less common. The two-month history of weight loss, fatigue and anaemia, which were suggestive of subacute endocarditis, were likely overshadowed by the presence of the vasculitic rash. As rash is an uncommon presenting feature of endocarditis,[1] this proved misleading. The distribution of the rash in our patient was similar to that seen in classic HSP, but the purpuric rash of HSP is typically palpable.[2] Furthermore, the leukocytoclastic vasculitis seen in HSP is typically associated with deposition of immunoglobulin A detectable by immunofluorescence.[2]

The presence of haematuria and proteinuria further confounded diagnosis. Although haematuria and proteinuria are classically found in HSP,[2] renal involvement is not uncommon in endocarditis. Renal manifestations in endocarditis can range from microscopic haematuria (which is common) to glomerulonephritis and acute kidney injury.[3]

In addition, the subacute nature of the condition presented a diagnostic challenge. Haemodynamic status was maintained at the time of admission, probably due to gradual erosion of the aortic valve. Sometimes, as in the case of this patient, irreparable valve damage occurs before patients present to hospital and treatment is started.

Clinicians therefore beware! First, a vasculitic rash does not necessarily mean an immune-mediated primary condition. Second, proteinuria and, particularly, haematuria are recognised features of endocarditis. Finally, a diastolic heart murmur, especially in a previously healthy individual, is almost always pathological and must be investigated promptly.

References

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Address for correspondence: Dr A Natarajan, Essex Cardiothoracic Centre, Level B, Roding Ward, Basildon and Thurrock University Hospitals NHS Foundation Trust, Basildon, Essex SS16 5NL.
Email: arunnatarajann@gmail.com